Exhibit 81

IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF NEW JERSEY

IN RE JOHNSON & JOHNSON TALCUM POWDER PRODUCTS MARKETING, SALES PRACTICES, AND PRODUCTS LIABILITY LITIGATION	)	MDL NO. 16-2738(FLW)(LHG)

IN THE CIRCUIT COURT OF THE CITY OF ST. LOUIS
STATE OF MISSOURI

VALERIE SWANN, Plaintiff, v. JOHNSON & JOHNSON, et al., Defendants.	)	Cause No. 1422-CC09326-03

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Tuesday, September 14, 2021

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Oral Deposition of JUDITH WOLF, M.D., VOLUME 2, held at the Fairmont Hotel, 101 Red River Street, Austin, Texas, commencing at 8:53 a.m. CDT, on the above date, before Michael E. Miller, Fellow of the Academy of Professional Reporters, Certified Court Reporter, Registered Diplomate Reporter, Certified Realtime Reporter and Notary Public.

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GOLKOW LITIGATION SERVICES
877.370.DEPS | fax 917.591.5672
deps@golkow.com

APPEARANCES:
BEASLEY ALLEN PC
BY: MARGARET M. THOMPSON, M.D., ESQUIRE
margaret.thompson@beasleyallen.com
218 Commerce Street
Montgomery, Alabama 36104
(334) 269-2343
Counsel for Plaintiffs

ONDERLAW LLC
BY: CYNTHIA L. GARBER, ESQUIRE
garber@onderlaw.com
12 Corporate Plaza Drive
Suite 275
Newport Beach, California 92660
(949)688-1799
Counsel for Plaintiffs

BLASINGAME BURCH GARRARD & ASHLEY PC
BY: SARA SCHRAMM, ESQUIRE
sschramm@bbga.com
440 College Avenue
Suite 320
Athens, Georgia 30601
(706)354-4000
Counsel for Plaintiffs

TUCKER ELLIS LLP
BY: MICHAEL C. ZELLERS, ESQUIRE
michael.zellers@tuckerellis.com
515 South Flower Street
42nd Floor
Los Angeles, California 90071
(213) 430-3400
Counsel for Johnson & Johnson Defendants

APPEARANCES:
FAEGRE DRINKER BIDDLE & REATH LLP
BY: ERIC M. FRIEDMAN, ESQUIRE
eric.friedman@faegredrinker.com
(via Zoom)
300 North Meridian Street
Suite 2500
Indianapolis, Indiana 46204
(317)237-0300
Counsel for Johnson & Johnson Defendants

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P R O C E E D I N G S

September 14, 2021, 8:53 a.m. CDT

JUDITH WOLF, M.D.,
having been previously duly sworn,
testified as follows:

EXAMINATION

BY MR. ZELLERS:

Q. Good morning, Dr. Wolf.

A. Good morning.

Q. I'd like to ask you some questions about Lynda Bondurant and the case that's been filed on her behalf.

A. Okay.

Q. You have prepared a case-specific report regarding Ms. Bondurant; is that right?

A. Yes.

Q. We marked that yesterday as Deposition Exhibit 6, and you have that in front of you; is that right?

A. Yes.

Q. That report contains your case-specific opinions with regard to Ms. Bondurant; is that right?

A. Yes.

Q. The first 21 pages of Exhibit 6, your report, is the same as the general amended report that we discussed yesterday, correct?

A. Yes.

Q. Ms. Bondurant had clear-cell carcinoma; is that right?

A. Clear-cell carcinoma of the ovary, yes.

Q. And it's your opinion, as stated on pages 22 to 24 of your report, Exhibit 6, that talcum powder is a substantial contributing cause of Ms. Bondurant's clear-cell cancer of the ovary; is that right?

A. Yes.

Q. You did not identify any other contributing causes of Ms. Bondurant's clear-cell ovarian cancer; is that right?

A. I'm just relooking just to make sure that -- she did have a family history --

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although her genetic testing was negative, she did have a family history of cancer that was significant.
Q. Any other contributing causes for Ms. Bondurant's clear-cell ovarian cancer?
A. She gave a history of endometriosis, but we don't have any pathology or an operative report from her hysterectomy when she had had that prior to know whether that was pathologically confirmed, which is -- endometriosis is confirmed at the time of surgery.
Q. If, in fact, she did have endometriosis, that would be a contributing cause as well, correct?
A. It would be a risk factor.
Q. Any other contributing causes or -- and let me stop there.
We talked yesterday, and I believe you agreed, that there is a difference between a risk factor and cause; is that right?
A. Yes.
Q. You believe that in her case,

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that talcum powder is a substantial contributing cause, correct?
A. Yes. Yes.
Q. She does have other risk factors which may be contributing causes.
Is that a fair summary of your testimony?
A. Well, she had -- her other risk factor that I know for sure that she has was the family history.
Q. And that's the maternal aunt with ovarian cancer; is that right?
A. Yes.
Q. And also a mother that had breast cancer?
A. I'm just trying to find her family history in my report.
Q. Page 24, I believe.
A. Yes. Maternal aunt with ovarian cancer and mother with breast cancer.
Q. Ms. Bondurant's mother also had an ovarian nonmalignant tumor; is that right?
A. That's no relationship to ovarian cancer.
Q. That is not a risk factor?

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A. No. There are 300 -- 300,000 women every year in the U.S. who have surgeries for ovarian masses, and 20,000 or 21,000 of them are ovarian cancer. Having a benign mass on your ovary is not a risk factor for ovarian cancer.
Q. And in your view, it's not -- well, let me withdraw that.
You agree that -- strike that.
Do you agree that a first-degree relative with ovarian or breast cancer increases a woman's risk for ovarian cancer?
A. So a first-degree relative with ovarian cancer or a first-degree relative with premenopausal breast cancer does, and so she had -- her aunt would not be a first-degree relative. Her mother -- I don't know that we know what age her mother was diagnosed with breast cancer. I don't have that right in front of me. I'd have to look through the records again.
But those two things, that she has two family members with breast and ovarian cancer, I think is a risk factor,

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even though her genetic testing is negative.
Q. This family history increases her lifetime risk of ovarian cancer up to two times; is that right?
A. Yes.
Q. Even though Ms. Bondurant tested negative for BRCA, she still was at two times increased risk for ovarian cancer, given her family history of a first-degree relative with breast cancer and maternal aunt with ovarian cancer, correct?
DR. THOMPSON: Object to form.
A. So given that she has this family history, I think she's still at increased risk.
BY MR. ZELLERS:
Q. Her family history would be a significant contributing cause; is that your opinion?
A. It's a risk factor.
Q. All right. It's a risk factor, and it could be a significant contributing cause, fair?
A. Well, ovarian cancer is a multifactorial disease, and if she had a

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genetic predisposition, if we knew that she had one, that would still just be one of the factors that could lead to ovarian cancer, but in and of itself doesn't necessarily cause ovarian cancer.

Q. It may or may not in a given woman's case, correct?

DR. THOMPSON: Object to form.

A. It may or may not what?

BY MR. ZELLERS:

Q. Cause ovarian cancer or be a substantial contributing cause.

A. It could be a contributing cause.

Q. All right. Ms. Bondurant's family also has a significant history of other cancer in her family, correct?

A. Yes.

Q. She has a -- or had a brother with non-Hodgkin's lymphoma?

A. Yes.

Q. A maternal grandmother with lymphoma?

A. Yes.

Q. An aunt with lung cancer?

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A. Yes.

Q. Uncle with throat cancer?

A. Yes.

Q. Maternal great aunt with breast cancer?

A. I don't remember the maternal great aunt. I don't have that right here, but...

Q. All right. That would be a significant history, correct, if that's, in fact, true?

DR. THOMPSON: Object to form.

A. It would be a history.

BY MR. ZELLERS:

Q. First cousin with pancreatic cancer?

DR. THOMPSON: Object to form.

A. Yeah, I --

BY MR. ZELLERS:

Q. Let me show you --

A. Let me see that part, because I don't have that whole part of her history in front of me.

Q. That's okay. I'll refresh your recollection here.

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A. Okay.

Q. We'll mark a portion of the medical records, and specifically a progress note with Dr. Shank from November 13, 2018, pages 12 to 19 of the records that were produced, as Exhibit 40.

(Whereupon, Deposition Exhibit Wolf-40, Medical Record(s), LBONDURANT_PL_00012 - LBONDURANT_PL_00019, was marked for identification.)

BY MR. ZELLERS:

Q. And so if you go...

A. I'm looking at her family history.

Q. Okay.

(Document review.)

A. This one says maternal -- mother with ovarian nonmalignant tumor. Brother alive, nonsmall cell lung cancer and lymphoma. Maternal aunt deceased with ovarian cancer. Maternal grandmother lymphoma, denies history of breast cancer, endometrial cancer and colon cancer.

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BY MR. ZELLERS:

Q. Doctor, let me mark a second record, which I think will contain the other portion of the history that is pertinent.

Exhibit 41, these are the MD Anderson Cancer Center records or excerpts from them, pages 1215 to 1216.

(Whereupon, Deposition Exhibit Wolf-41, Medical Record(s), LBONDURANT_MDAMR_01215 - LBONDURANT_MDAMR_01216, was marked for identification.)

A. So there's a maternal great aunt with cervical cancer, maternal uncle with throat cancer, brother with lymphoma, maternal aunt with ovarian cancer; maternal grandmother, non-Hodgkin's lymphoma; maternal uncle, pancreatic cancer; a lung cancer in an aunt and an uncle, and another uncle.

That's all I see. I don't see any pancreatic cancer.

BY MR. ZELLERS:

Q. Well, if you look on page 1216, the second page, problem, pancreatic cancer --

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A. Oh, maternal uncle, yeah. Maternal uncle.
You said something about a great aunt who had ovarian cancer?
Q. Breast cancer.
A. Lung cancer, lung cancer. I'm not seeing that.
Q. Look on the first page, if you will.
A. Breast cancer, maternal aunt. Oh, her great aunt. Okay. Daughter, cervix, precancer of the cervix. Okay.
Q. You'd agree that this is a significant history of other cancers in her family, correct?
A. The other cancers don't have anything to do with ovarian cancer other than the maternal great aunt with breast cancer.
Q. So it's your testimony that none of these other cancers are relevant in terms of any increased risk for ovarian cancer?
A. So pancreatic cancer can be for BRCA2 mutations, but she did not have one of those. Lung cancer would not be. Throat

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cancer would not be. Non-Hodgkin's lymphoma would not be.
Q. Do you agree that her family history of numerous sporadic cancers suggests some type of genetic predisposition?
DR. THOMPSON: Object to form.
A. No. The first thing that comes to my mind is that with all the lung cancers and the throat cancer, that maybe there's some smoking in the family, in particular knowing that she was a smoker.
BY MR. ZELLERS:
Q. Well, that would not impact the breast cancer, would it?
A. I didn't mention the breast cancer. I said the lung cancer and the throat cancer.
Q. That would not impact the pancreatic cancer, correct?
A. That's not what I said.
Q. I'm asking you a question, Doctor.
A. And the question?
Q. Is smoking a risk factor for pancreatic cancer?

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A. Not as far as I'm aware.
Q. All right.
DR. THOMPSON: And you did not ask a question. You said that --
MR. ZELLERS: Ms. Thompson, please. You can object to form, but we don't need to argue.
DR. THOMPSON: Okay. But you didn't ask a question, so I'm -- Dr. Wolf was right.
BY MR. ZELLERS:
Q. Ms. Bondurant's genetic testing identified a pathologic variant of the SDHA gene and a variant of uncertain significance, VUS, in the PTCH1 gene, correct?
A. You know what? Can I see her report again? I thought I had it in here, but I don't see it.
Q. I think you have it in your report, page 23.
A. Oh, I do. Yes.
Q. You agree that she did have a genetic mutation, correct?
A. Not one that is related to ovarian cancer. The SDHA gene is not one

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that increases the risk of ovarian cancer, and a variant of uncertain significance doesn't mean anything.
MR. ZELLERS: Move to strike as nonresponsive.
BY MR. ZELLERS:
Q. Is it --
DR. THOMPSON: Move to -- that it was responsive.
MR. ZELLERS: Okay. Ms. Thompson, you can object as to form --
DR. THOMPSON: Okay.
MR. ZELLERS: -- but you don't have to be making commentary as we go along.
DR. THOMPSON: Well, I can't object to the form of the question when it wasn't a question, and I'm -- you made a motion to strike, and I'm saying it was responsive. And I think I am allowed to do that.
MR. ZELLERS: Well, hopefully it won't continue, but --
DR. THOMPSON: Well, we'll see

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what the questioning is like.
BY MR. ZELLERS:
Q. She did have a genetic mutation; that was my question.
DR. THOMPSON: Object to form.
A. In a gene that is not related to ovarian cancer.
BY MR. ZELLERS:
Q. Is that a yes?
DR. THOMPSON: Object to form.
A. In a gene that is not related to ovarian cancer, yes, she had mutation, but it's not related to ovarian cancer.
BY MR. ZELLERS:
Q. VUS is a mutation where the association with disease is unclear, correct?
DR. THOMPSON: Object to form.
A. It's a variant, yes, a change in the gene that has unclear significance.
BY MR. ZELLERS:
Q. VUS mutations are tracked to see how many women with cancer have them; is that right?
DR. THOMPSON: Object to form.
A. VUSs are tracked to see if

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any -- at any point in the future, there's any relationship to increased risk for cancers.
BY MR. ZELLERS:
Q. If the same VUS is seen in more woman, then science may identify a new gene that increases the risk of ovarian cancer, correct? That's the reason it's being tracked.
DR. THOMPSON: Object to form.
A. I didn't understand what you said. It didn't make sense to me. Can you repeat it again, please?
BY MR. ZELLERS:
Q. Sure.
VUSs are tracked, and if the same VUS is seen in more women, then science may identify a new gene that increases the risk of ovarian cancer, correct? That's why it's being tracked?
DR. THOMPSON: Object to form.
A. They're not being tracked just to look for ovarian cancer. They're being tracked to see if there's any increased risk in men or women of any cancers.

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BY MR. ZELLERS:
Q. Ovarian cancer would be included in the cancers that are being tracked, correct?
A. Yes.
Q. All right. Are you familiar with Gorlin syndrome?
A. Not offhand.
MR. ZELLERS: Please mark as Deposition Exhibit 42 a statement from NIH, National Cancer Institute, on Gorlin syndrome.
(Whereupon, Deposition Exhibit Wolf-42, NCI Definition of Gorlin Syndrome, was marked for identification.)
BY MR. ZELLERS:
Q. Have you had a chance to review Exhibit --
A. Yeah. Now that I see it spelled out, I remember vaguely in medical school a long time ago learning about Gorlin syndrome, but...
Q. National Cancer Institute says: Gorlin syndrome is caused by a mutation or

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change in the PTCH1 gene.
Is that right?
A. Yes.
Q. And that's what Ms. Bondurant's genetic testing showed, a mutation VUS in the PTCH1 gene, correct?
DR. THOMPSON: Object to form.
A. She had a variant of uncertain significance in the PTCH gene 1. And in Gorlin syndrome, it is not associated with ovarian cancer -- reading this from the National Cancer Institute that you showed me -- it's associated --
BY MR. ZELLERS:
Q. Where does it say that it's not associated with ovarian cancer?
A. It says it's associated with basal cell skin cancers, medulloblastomas, which are brain cancers, and other types of cancers. It can cause benign, noncancerous, tumors in the jaw, heart or ovaries.
Q. It says: And other types of cancer. It doesn't say and other types of cancer that may be benign.
DR. THOMPSON: Object to form.

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A. But it says specifically benign tumors of the ovary.
BY MR. ZELLERS:
Q. Okay. You -- other than what I've just shown you -- don't know about or at least don't recall learning about Gorlin syndrome, correct?
DR. THOMPSON: Object to form.
A. What you showed me was -- is from the National Cancer Institute, which describes what Gorlin syndrome is, and it specifically says it can cause benign cancers of the ovary, but a very high risk of developing basal cell skin cancers during adolescence or early adulthood.
Neither Ms. Bondurant nor any of her family members have any history of that, or medulloblastoma or any type of brain cancer.
And this does not list any of the cancers that are in her family as increased risk with Gorlin syndrome.
BY MR. ZELLERS:
Q. It says in the second and third sentence: They are also at risk of

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developing medulloblastoma-type of brain cancer and other types of cancer, correct?
A. And the next sentence says: It can also cause benign, noncancer tumors in the jaws, heart or ovaries. And the next sentence says: Other signs and symptoms include a large head, unusual facial features, small pits on the skin or the hands or the feet.
There's no -- in her records, there's no indication that she has any of those physical findings that would suggest Gorlin syndrome.
Q. Gorlin syndrome is a rare inherited disorder; is that right?
A. Yes.
Q. That affects many organs and tissues in the body, correct?
A. And it's also called basal cell nevoid syndrome because people get basal cell cancers at a young age.
MR. ZELLERS: Move to strike as nonresponsive.
BY MR. ZELLERS:
Q. Does it affect many organs and

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tissues in the body?
A. Yes.
Q. Inherited means genetic information passes from parent to child; is that right?
A. Yes.
Q. Ms. Bondurant's mother had a benign -- had a benign ovarian tumor; is that right?
A. She did.
Q. And a benign ovarian tumor would be consistent with Gorlin syndrome, as you've pointed out, correct?
DR. THOMPSON: Object to form.
A. It's something that can happen in Gorlin syndrome, but I would expect that either her mother or someone in her family, if this was Gorlin syndrome, had basal cell skin cancers.
And, again, this says nothing about it causing ovarian cancer. And why in the world would it say it causes benign ovarian tumors, because that doesn't kill people and ovarian cancer does, if ovarian cancer was one of the cancers that was

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significantly associated with Gorlin syndrome?
Additionally, she doesn't have a mutation that's known to have any clinical significance in this gene, the PTCH1 gene.
MR. ZELLERS: Doctor, move to strike as nonresponsive.
BY MR. ZELLERS:
Q. Here's my question --
DR. THOMPSON: Responsive.
BY MR. ZELLERS:
Q. My question is: A benign tumor would be consistent with Gorlin syndrome; is that true?
DR. THOMPSON: Object to form.
A. Multiple benign tumors are consistent with Gorlin syndrome.
BY MR. ZELLERS:
Q. Thank you.
Even if the PTCH1 genes are not directly related to ovarian cancer, do you agree that her family history and PTCH1 mutation raises the question that Ms. Bondurant had an inherited mutation?
DR. THOMPSON: Object to form.

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A. No, I do not agree with that.
BY MR. ZELLERS:
Q. I want you to assume that a patient comes to you with a genetic mutation, maternal aunt with ovarian cancer, mother with breast cancer, and she's worried about getting ovarian cancer. She's 58, healthy, done having children, and still has her uterus and ovaries.
How would you counsel that patient?
DR. THOMPSON: Object to form, incomplete --
A. You said that she has a --
DR. THOMPSON: Hang on. Object to form, incomplete hypothetical.
A. You said that she has a genetic mutation. What is her genetic mutation?
BY MR. ZELLERS:
Q. The genetic mutation would be a VUS.
DR. THOMPSON: Object to form.
A. A VUS of what?
BY MR. ZELLERS:
Q. Doctor, we don't -- I mean --

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A. Well, you wouldn't know that somebody has a VUS unless you knew what that VUS was -- what gene it was associated with.
Q. All right. A VUS in the PTCH1 gene.
A. And the question is: What would I --
Q. What would you advise the patient? How would you counsel that patient?
A. That that VUS in the PTCH1 gene, there's no evidence that increases her risk for ovarian cancer.
Q. So how would you counsel the patient? Would you tell her she has no risk for ovarian cancer?
DR. THOMPSON: Object to form, asked and answered.
A. Every woman who has ovaries has a risk for ovarian cancer.
BY MR. ZELLERS:
Q. Okay. So is that all the counsel you would do?
A. With her -- tell me what you -- her family history is again?
Q. So she has a genetic mutation,

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maternal aunt with ovarian cancer, mother with breast cancer, and she's worried about getting ovarian cancer. She's 58, healthy, done having children, still has her uterus and ovaries.
How would you counsel that patient?
DR. THOMPSON: Object to form, incomplete hypothetical.
A. That her family history of breast and ovarian cancer may increase her risk for ovarian cancer. That the VUS and the PTCH1 gene, which I assume is the same as what you said before, that's the one we're talking about, has no impact on her risk of ovarian cancer. That's what I would tell her.
I wouldn't recommend that she have any additional testing done or any surgical intervention.
BY MR. ZELLERS:
Q. Would you recommend a prophylactic hysterectomy and a bilateral salpingo-oophorectomy?
DR. THOMPSON: Objection, asked

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and answered.
A. I already answered that I would not recommend any surgery.
BY MR. ZELLERS:
Q. She is at increased risk of ovarian cancer. You'd agree with that, right?
A. With her family's history. It has nothing to do with the VUS and the PTCH1 gene.
Q. What about a woman with no family history of cancer, no gene mutations, no risk factors except for talc?
A. She's also at increased risk for ovarian cancer.
Q. And how would you counsel that woman?
A. I would counsel her to stop using talc.
Q. Anything else?
A. No.
Q. Ms. Bondurant had a history of endometriosis; is that right?
A. She gave a clinical history. We don't have -- I don't have any pathologic

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confirmation of that or surgical confirmation.
Q. As we talked yesterday, endometriosis is a risk factor for ovarian cancer; is that right?
A. Endometriosis is a risk factor for ovarian cancer.
Q. You did not include endometriosis as a potential risk factor for Ms. Bondurant because we do not have pathology or an operative report from her hysterectomy to confirm this.
That's on page 24 of your report. Is that right?
DR. THOMPSON: Object to form.
A. That's not what I -- it says. I said did she have other risk factors, and I listed endometriosis --
BY MR. ZELLERS:
Q. The quote I have on page 24 of your report is you did not include endometriosis as a potential risk factor because, quote: We do not have pathology or an operative report from her hysterectomy to confirm this.

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Did I miss --
DR. THOMPSON: Object to form.
Can you show us the quote?
A. Can you show -- because that's not what it says on my report here.
BY MR. ZELLERS:
Q. So I'm looking at page 24, number 7.
A. Yes.
Q. This is Exhibit 6. Endometriosis. We do not have pathology or an operative report from her hysterectomy to confirm this.
Are those your words?
A. Those are my words. What you said before was that I said I discounted this or I did not consider this because we don't have that.
Q. All right. So you would include endometriosis as a potential risk factor, fair?
A. So I'm saying that -- I'm saying exactly what she says there. She gives a history. I don't have a confirmation of it. So I don't know whether to include

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that or not include that.
Q. Well, you're aware that Ms. Bondurant herself, before she passed, reported that she was diagnosed with endometriosis by Dr. Gardner in 1980, correct?
A. Yes.
Q. She also reported to her gynecologic oncologist, Dr. Shank, that she had a history of endometriosis; is that right?
A. Yes.
Q. Wouldn't Ms. Bondurant have been a reliable source of information as to whether she had been diagnosed with endometriosis?
DR. THOMPSON: Object to form.
A. The only way to diagnose endometriosis is via surgery, and I'm not aware that she had any surgery in 1980 that would have confirmed that.
BY MR. ZELLERS:
Q. So the only legitimate way or viable way to diagnose endometriosis is when a woman has surgery?

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A. In order to diagnose endometriosis, the standard way to diagnose it is to do surgery to look to see if you find it. In most women that's done via laparoscopy. Some women have a laparotomy, a bigger incision in the abdomen.
There are symptoms of endometriosis, but you can't confirm it without surgery.
Q. So you, as a treating physician, if you had a patient who told you that she had been diagnosed with endometriosis, you would not rely on that and you would not believe that patient unless she showed you or proved it to you in some way with medical records?
DR. THOMPSON: Object to form.
A. I would ask her how was it diagnosed, and if she didn't have a surgical diagnosis, I would assume it was presumed endometriosis without any confirmation.
BY MR. ZELLERS:
Q. All right. Well, neither Dr. Gardner nor Dr. Shank say presumed endometriosis, do they?

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DR. THOMPSON: Object to form.
A. That's neither here nor there to me. You asked me what I would do.
BY MR. ZELLERS:
Q. All right. So you would not believe a patient unless they had a surgical record that they had endometriosis?
DR. THOMPSON: Object to form.
A. I would not confirm the diagnosis of endometriosis without -- without surgical intervention to prove it. I'm not saying the patient is lying.
I'm saying that the patient -- someone may have told her she had endometriosis, but without surgical confirmation, you can't make the diagnosis.
BY MR. ZELLERS:
Q. So if a patient, hypothetically, came to you and said that they had endometriosis --
A. I would ask them how was it diagnosed.
Q. All right. And if they said I had surgical confirmation, you would accept that?

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A. Yes.
Q. And if they didn't say they had surgical confirmation, you would reject it and consider them not to be truthful, or at least not to have had a history of endometriosis?
DR. THOMPSON: Object to form.
A. You are putting words in my mouth. What I said was that I would consider it presumed endometriosis without confirmation.
BY MR. ZELLERS:
Q. Would it have been wrong for Dr. Shank to have accepted her history of endometriosis --
DR. THOMPSON: Object to form.
BY MR. ZELLERS:
Q. -- without surgical confirmation?
DR. THOMPSON: Object to form.
A. Dr. Shank is free to do whatever he wants in his medical records, and -- and I can't remember if Dr. Shank was her gynecologic oncologist at the time of her diagnosis, but at the time of her diagnosis,

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the most important thing was figuring out what was going on and taking care of her ovarian cancer.
And what he or she -- again, I don't know if it's a man or a woman -- put in their chart, I'm not in charge of that.
BY MR. ZELLERS:
Q. Same question with Dr. Gardner. It would be --
A. Same answer.
Q. -- wrong -- okay.
You do rely on your patients to give you their medical history when they come to see you, correct?
A. Yes.
Q. And do you generally believe women when they give you their medical history?
A. I said it's not that I wouldn't believe someone who told me they had endometriosis. I would not consider it confirmed unless I had a diagnosis that confirmed it.
Q. And so you would not consider it in a differential diagnosis unless you had

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proof, surgical confirmation of endometriosis?
DR. THOMPSON: Object to form.
BY MR. ZELLERS:
Q. Is that your testimony?
A. No. A differential diagnosis is when somebody has symptoms or findings, clinical findings or symptoms, and you say what could be causing this? Well, it could be this or this or this. And if one of those things is endometriosis, the way I would confirm that or rule it out would be surgery. And that is the standard of care.
Q. Do you agree that endometriosis, if, in fact, Ms. Bondurant had endometriosis, would double a woman's risk of clear-cell ovarian cancer?
DR. THOMPSON: Object to form.
A. It increases her risk of ovarian cancer for sure --
BY MR. ZELLERS:
Q. Would it --
A. -- endometriosis.
Q. Would it double her risk?
A. The risk is about twice, yes,

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twice the general population.
Q. We looked yesterday at Deposition Exhibit 37. You probably don't have it. I'll hand you -- this is 37.
MR. ZELLERS: And, Ms. Thompson, I gave it to you yesterday. Can you let the witness just take a look at it just so we don't have to dig out the whole stack?
DR. THOMPSON: Yes, of course.
THE WITNESS: Thank you.
BY MR. ZELLERS:
Q. So this is an article, Risk of Gynecologic Cancer According to the Type of Endometriosis, and we looked at this yesterday.
A. Yes.
Q. First named author is Saavalainen.
A. You practiced that last night.
Q. This study assessed the risk of gynecological cancer according to the type of endometriosis in women with surgically verified endometriosis; is that right?
A. Yes.

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Q. And then if you look on page 1, under Results -- and I think we may have looked at this yesterday in terms of endometriosis, but specifically under Results, these authors found that endometriosis was associated with increased risk of clear-cell of 5.17; is that right?
A. Yes.
Q. The risk of ovarian cancer was highest among women with ovarian endometriosis, and especially for clear-cell, with a hazard ratio or relative risk of 10.1.
A. So that's for women who have their endometriosis on the ovaries. Yes. Endometriosis, in general, is the 5.
Q. And if, in fact, a woman had endometriosis on the ovaries, then she would be at a 1000% increased risk of clear-cell ovarian cancer; is that right?
DR. THOMPSON: Object to form.
A. No, that's not what that means.
BY MR. ZELLERS:
Q. What does that mean? What would the increased risk be?
A. So if someone has endometriosis

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on her ovary, her risk of ovarian cancer is not 1,000 times --
Q. Well --
A. -- higher than someone who doesn't have endometriosis.
Q. The relative risk, at least according to this paper, would be 10.1, with a confidence interval of 5.50 to 16.9, correct?
A. That's what the confidence interval is, but if what you're saying is true, and there are a million women in the U.S. who had known proven endometriosis, even if we just took all of them, that would mean that their chance of ovarian cancer was 1,000 times higher or 500 times higher than the general population? That's just not true. That's just not true.
We'd have way more clear-cell endometrial cancers -- clear-cell ovarian cancers than there are in the U.S. Clear-cell ovarian cancer counts for about 5% of epithelial ovarian cancers, so that would be about a thousand women a year.
If a million people had

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endometriosis and their risk of getting clear-cell cancer was 500 or 1,000 times greater than somebody who doesn't have it, we would have way more clear-cell cancers than we do.
Q. And when you speak of this, you're speaking of women who have been diagnosed with ovarian endometriosis, correct?
A. Well, I -- no, I'm speaking that in the United States, approximately a million to 2 million women have endometriosis.
Q. All right. So you're not speaking of ovarian endometriosis, which was my question and my reference to the 1,000% increased risk of clear-cell ovarian cancer.
A. What percentage of women have ovarian endometriosis? Let's see. That's probably in this study.
(Document review.)
A. I don't see that in this study. Endometriosis...
BY MR. ZELLERS:
Q. All right. Well, if we look at

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just the --
A. No. Stop. One second.
So there were 49,000 women in the study and 23,000 had ovarian cancer -- ovarian endometriosis, so can we round that to half.
And so that would be if somewhere between 500,000 and a million women had ovarian endometriosis, then their chances of getting clear-cell ovarian cancer was 1,000 times higher than the general population, and we would see a lot more clear-cell ovarian cancer than we do.
Q. You're not disputing the results. You may be disputing my question and my interpretation of the results, but you're not disputing that, at least according to this article, Deposition Exhibit 37, that regardless of the type of endometriosis, this study found an increased risk of clear-cell ovarian cancer of 5.17, correct?
A. I'm not disputing that result.
Q. And similarly, the authors found an increased risk -- if it was ovarian endometriosis, there was an increased risk of

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clear-cell ovarian cancer of 10.1, correct?
DR. THOMPSON: Whoa. You're talking about the risk ratio reported?
MR. ZELLERS: Yes, I'm talking about what the authors found.
DR. THOMPSON: All right.
MR. ZELLERS: The risk --
DR. THOMPSON: Well, you weren't really saying what the authors found.
MR. ZELLERS: I think that was in my question, but if not, that's what I meant.
A. The incidence ratio, yes, was 5 for all endometriosis -- types of endometriosis and 10 for ovarian endometriosis.
BY MR. ZELLERS:
Q. In terms of an increased risk for clear-cell ovarian cancer, correct?
A. That's correct.
Q. You know from reviewing the literature that endometriosis is associated with a high relative risk, especially or specifically with clear-cell ovarian cancer,

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correct?
A. So endometriosis overall increases the risk of ovarian cancer about twice. The types of cancer that happen that arise in association with or in an area of endometriosis more commonly are clear-cell or endometrioid type.
Q. Did you review, in connection with your opinion here, Dr. McTiernan's testimony in the Forrest trial?
A. The Forrest trial?
Q. Yes.
A. Not that I recall.
Q. You do respect Dr. McTiernan as an epidemiologist, correct?
A. Yes.
Q. And you included, I think we discussed yesterday, the Forrest plots in your report?
A. The plots, yeah.
Q. Are you aware that Dr. McTiernan testified that the literature is consistent with a relative risk of 3 for endometriosis and clear-cell ovarian cancer?
A. What -- I'm not aware of that,

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and I'd like to ask: What is the Forrest trial? Is that a paper that I should see?
Q. No. I'm sorry. That's a trial much like the Kleiner trial that you testified in.
A. Oh, okay.
Q. Forrest is the name.
A. In my head it was a clinical medical trial.
Q. Understood.
You're just unaware of what her testimony was?
A. I'm unaware of her testimony, that's correct.
Q. Does it sound right that the literature is consistent with a relative risk of 3 for endometriosis and clear-cell ovarian cancer?
A. It's somewhere 2 or more.
Q. Okay. Page 23 of your report says that clear-cell is a histologic subtype associated with genital talcum powder use in multiple studies.
Do you see that?
A. Yes.

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Q. What studies support your opinion that clear-cell carcinoma is associated with genital talc use?
A. So in some of the studies, subtypes were separated out and some were not, and, again, clear-cell is not common.
In the -- in the Schildkraut study, they lumped clear-cell with endometrioid and other subtypes, and it was increased risk.
In the Terry study, which looked at eight studies, there were enough that they were able to show a statistical significant increased risk of, I think, 1.24.
Q. Okay. Terry is the only study that you reviewed or that you're aware of that shows a statistically significant increased risk for clear-cell ovarian cancer, correct?
DR. THOMPSON: Object to form.
A. As I just said, most of the studies don't have enough or did not separate out clear-cell separately to show a statistical significant increase.
The Schildkraut study, when

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they looked at the nonserous together, which I believe were endometrioid, clear-cell or undifferentiated, there was a statistical significance.
And the Terry study, which took eight studies and looked at them together, there were close to 200 clear-cells, and there was a statistical significance.
BY MR. ZELLERS:
Q. If we're looking at clear-cell ovarian cancer, the only study that shows a statistically significant increased risk for ovarian cancer is the Terry study, correct?
DR. THOMPSON: Object to form.
A. Because there were too few cases in most of the studies, that -- yes.
BY MR. ZELLERS:
Q. Are you aware that the Terry study is based on clear-cell data from the New England Consortium?
A. The OCAC Consortium, is that what you're calling the New England Consortium?
Q. Yes.
A. Yes.

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Q. Have you explored the discrepancy in the clear-cell data that's reported in Terry's paper versus the same data on clear-cell that's reported in the Cramer 2016 study?
DR. THOMPSON: Object to form.
A. No.
Can I see those papers?
BY MR. ZELLERS:
Q. I have Cramer 2016. Let's mark that as Exhibit 43.
(Whereupon, Deposition Exhibit Wolf-43, The Association Between Talc Use and Ovarian Cancer, by Cramer et al, was marked for identification.)
(Comments off the stenographic record.)
A. And the Terry study? Can I have the Terry study?
BY MR. ZELLERS:
Q. I don't believe I have a copy of Terry.
THE WITNESS: Do any of you have the Terry study?
///

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BY MR. ZELLERS:
Q. Let me see if I've got it.
So I did not bring a copy of Terry.
A. I need to see them side by side so I can answer questions, comparing them.
Q. Let me ask you some questions, and then if you can't answer the questions because you --
A. I want to see them side by side, so --
Q. Doctor, I'm going to ask you questions. If you can't answer the question because you don't have the Terry study in front of you, you can tell me you can't answer the question.
A. Okay.
DR. THOMPSON: We'll pull it up on the computer. Just hold on a minute.
THE WITNESS: Thank you. Okay.
MR. ZELLERS: All right.
BY MR. ZELLERS:
Q. So you now have Terry 2013 available to you electronically; is that

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right?
A. Yes.
MR. ZELLERS: And we will supplement the record and we'll mark Terry as Exhibit 44.
(Whereupon, Deposition Exhibit Wolf-44, Genital Powder Use and Risk of Ovarian Cancer... by Terry et al, was marked for identification.)
MR. ZELLERS: It's the Terry 2013 study.
BY MR. ZELLERS:
Q. Are you able to tell the number of cases of clear-cell cancers, ovarian cancers that Terry is reporting?
A. 187.
Q. Are you able to tell the number of clear-cell ovarian cancers reported in the Cramer 2016 study?
A. I'm looking for that.
(Document review.)
A. I'm assuming it's in one of the tables, and I keep fumbling through them. I'm sorry. Just give me one minute. Okay.
114.

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BY MR. ZELLERS:
Q. And you're looking where?
A. Table 4.
Q. Do you have any understanding of why Terry would be reporting 187 cases of clear-cell ovarian cancer and Cramer is reporting 114 if they obtained the data, the clear-cell ovarian cancer data, from the same source?
DR. THOMPSON: Object to form.
A. I'm looking for the total number of patients in each study to see if they had -- I see that they both were looking at the OCAC, the consortium, and I'm looking for the total number of patients, because the Terry study, their study population was a total of -- I mean, that could be one reason, that they included or excluded different patients. And so even if they were starting with the same group, the ones that they looked at in the end -- oh, this pooled study of 8 case-controlled studies included 8,525 ovarian cancer cases.
BY MR. ZELLERS:
Q. What are you looking at, Terry?

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A. Terry, the results, on page 815.
I don't see a number in the results for Cramer. I'll try to add all of the patients. 2,000, 3,000 -- there were about 4,000, 4500, so there were less patients in the Cramer study.
Q. I want to ask you a couple of hypothetical questions. We did that yesterday.
I want you to assume that both Cramer 2016 and Terry 2013 are looking at the same dataset with respect to clear-cell ovarian cancer cases. And I want you to assume that Terry is misreporting the number of cases of clear-cell, but that Dr. Cramer got it right.
Cramer, at least in his publication, 2016, finds no association between talc use and clear-cell; is that right?
And I'm looking at page 341.
DR. THOMPSON: Object to form.
A. Are we talking about a hypothetical situation?

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BY MR. ZELLERS:
Q. No. Let me withdraw my hypothetical --
A. Okay.
Q. -- and let me now ask you the question in terms of Cramer 2016 with the clear-cell ovarian cancer cases that were available that he analyzed, he found no association between talc use and clear-cell ovarian cancer, correct?
DR. THOMPSON: Object to form.
BY MR. ZELLERS:
Q. And that's page 341 under Discussion on the right-hand side.
A. Well, can we look at it in the results instead of the discussion?
Q. Before we go to results, Cramer states: There was general agreement on risk by histologic type of epithelial ovarian cancer except that OCAC, O-C-A-C, found an association with clear-cell cancer, and we did not.
Did I read that correctly?
A. That's a sentence in his discussion. You read it correctly.

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Q. All right. So hypothetically, if there was an error in the Terry study and that both Terry and Cramer were looking at the same dataset and had the same number of ovarian cancer cases, you would not have any epidemiology to rely on to support your opinion that talcum powder use causes clear-cell ovarian cancer, correct?
DR. THOMPSON: Object to form.
BY MR. ZELLERS:
Q. And that's a hypothetical.
DR. THOMPSON: Object to form.
A. That's not the case, though.
BY MR. ZELLERS:
Q. Well, you don't know that that's not the case.
DR. THOMPSON: Object to form.
A. I don't have any evidence to support that that's the case.
If you have some evidence to support that's the case, can you show it to me?
BY MR. ZELLERS:
Q. Well, we know that both Terry and Cramer obtained their data --

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(Interruption by the stenographer.)
BY MR. ZELLERS:
Q. They obtained their data from the same dataset; is that right?
A. Well, that's what I'm trying to figure out. In the methods, it's not clear to me that they did.
Q. And, Doctor, that's fair, and we've probably gone as far as we can go.
On the data Cramer had, he did not find an association between clear-cell ovarian cancer and talc use, correct?
DR. THOMPSON: Object to form.
A. Cramer's paper did not show a statistical significant difference. Terry's did.
BY MR. ZELLERS:
Q. And Cramer actually states that OCAC found an association with clear-cell cancer and he did not. Those are the words he uses, correct?
A. Those are the words he uses. That does not prove to me that there's something wrong with the OCAC study; does not

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insinuate that there's something wrong with the OCAC study.
Q. The Terry study is the only study that you are relying upon from an epidemiologic standpoint that shows a statistically significant association between clear-cell ovarian cancer and talcum powder use, correct?
DR. THOMPSON: Object to form.
A. The Terry study is the study that has the most cases of clear-cell ovarian cancer and found a statistically significant difference. They combined eight studies to find that.
And the Schildkraut study found an increased association -- excuse me, significant association of nonserous cancers, which included clear-cell and endometrioid.
BY MR. ZELLERS:
Q. But was not limited to clear-cell ovarian cancers, correct?
A. There were not enough cases, as is the case with most studies.
Q. I think we're in agreement that of the studies that you've looked at, Terry

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is the only one, if we're looking just at the clear-cell ovarian cancer subtype, which shows a statistically significant association between talcum powder use and ovarian cancer, correct?
DR. THOMPSON: Object to form.
A. I will say I think we're in agreement that most of the studies do not have enough clear-cells to show an association. That would be considered underpowered. There's not enough cases.
The Terry study had the largest number of cases of clear-cell and it did show a statistical significance.
BY MR. ZELLERS:
Q. You know that Penninkilampi is a more recent meta-analysis than the Terry study, correct?
A. That's correct.
Q. Penninkilampi shows no association between clear-cell ovarian cancer and talc use.
A. Can I see Penninkilampi's study?
Q. Sure.

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MR. ZELLERS: We'll mark Penninkilampi 2018 as Exhibit 45.
(Whereupon, Deposition Exhibit Wolf-45, Perineal Talc Use and Ovarian Cancer... by Penninkilampi et al, was marked for identification.)
BY MR. ZELLERS:
Q. So, Doctor, take as much time as you need to, to look at this, but I'm looking at the Abstract, and I'm looking at the very last couple of lines under Results, before Conclusion.
A. Well, I'm looking at Table 2, which separates out the types of ovarian cancer and said that there were three studies that looked at clear-cell, but it doesn't give me the number of clear-cell cases.
So I don't know how many clear-cell cases they actually were able to find in this study.
Q. If you look at the Abstract under Results, the very last line, Penninkilampi and the authors state: We found an increased risk of serous and endometrioid, but not mucinous or clear-cell

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subtypes.
Is that correct?
A. That's what this sentence in the Results of the Abstract says; however, I cannot find in this paper how many clear-cells they actually had to look at to know if there were enough to find statistical significance or not.
They only mentioned that they were in three studies, but I don't see anywhere in the paper, in the results, how many clear-cell cases there were in these three studies.
Q. What methodology are you using to value Terry differently than Penninkilampi with respect to finding an association between clear-cell ovarian cancer and talcum powder use?
DR. THOMPSON: Object to form.
A. The difference is I know how many clear-cell cases there were in the Terry study. I can't tell that from the Penninkilampi study. Unless we looked at the three studies that he found clear-cell separated out, and we could add those up and

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figure out how many there were.
BY MR. ZELLERS:
Q. Would that be important to do to substantiate or validate your opinions in this case?
A. It would be additional information.
Q. At least as of today, that's not something that you have done, correct?
A. It's not.
Q. You did not include a separate Bradford Hill analysis for clear-cell carcinoma in your report; is that right?
A. I did not.
Q. And you've not done a Bradford Hill analysis on the epidemiology of clear-cell ovarian cancer exposure to talcum powder, correct?
A. I have not separately, no.
Q. Are you aware that the O'Brien, the Berge, the Taher, the Wong, the Mills, the Rosenblatt, and the Cramer 1999 and Cramer 2016 studies find no association with clear-cell ovarian cancer and talcum powder use?

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DR. THOMPSON: Object to form.
A. They all had small numbers of clear-cell ovarian cancers, and I would not expect them to find an association with such small numbers.
BY MR. ZELLERS:
Q. Are you aware that these are the only talc epidemiology studies that break out data by clear-cell subtype?
DR. THOMPSON: Object to form.
A. I know that only some of them did.
BY MR. ZELLERS:
Q. And you attribute it to low numbers, but you do agree that in none of these studies was an association with clear-cell ovarian cancer found, correct?
DR. THOMPSON: Object to form.
A. When the numbers are low, it's hard to find an association because you can't make a determination with small numbers.
BY MR. ZELLERS:
Q. Except for O'Brien and Taher, all of these studies were published before your January 2019 deposition, your MDL

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deposition; is that right?
A. Yes.
You're talking about the ones you just listed?
Q. Yes.
A. Yes.
Q. You testified at your January 7th, 2019 deposition that the other subtypes are usually so small that there's probably enough to know statistical significance, such as clear-cell or mucinous. And I think that was a typo or that you misspoke.
I'm assuming that what you meant to say -- and I'm happy to show you the testimony.
With that background, I'm going to ask you a new question.
Do you agree that the other subtypes, such as clear-cell or mucinous ovarian cancer, are usually so small that there's probably not enough to know statistical significance?
DR. THOMPSON: Object to form.
A. The numbers of cases of those

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small types, and I think that's what I've been saying all morning.
BY MR. ZELLERS:
Q. Yes, I believe that you have, and I believe that there was an error or that you misspoke in your original deposition, and I think we've now clarified it.
Because you do agree that because, in your view of the small number of cases, that there are not studies that show a statistically significant association for clear-cell and for mucinous, other than the Terry study that we've talked about as it relates to clear-cell ovarian cancer, correct?
DR. THOMPSON: Object to form, misstates her testimony.
A. So are you -- can you read me what my deposition said? Because I'm very confused by that question.
BY MR. ZELLERS:
Q. I don't think we have to take the time to clear it up, but I will do it just so that we're sure we understand your testimony.

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MR. ZELLERS: I'm marking as Exhibit 46 one page of your MDL testimony, page 241, from January of 2019.
(Whereupon, Deposition Exhibit Wolf-46, Excerpt from Wolf MDL Deposition, was marked for identification.)
BY MR. ZELLERS:
Q. So you see you were asked the question: Is it your opinion, Doctor, that talcum powder use peritoneally increases a woman's risk of all different histologic types of ovarian cancer?
And I'm going down partway through your answer, starting at line 15: And the other subtypes are usually so small that there's probably enough to know statistical significance, such as clear-cell or mucinous.
And I believe what you meant to say is that: And the other subtypes are usually so small that there's probably not enough to know statistical significance, such as clear-cell or mucinous.

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Is that correct?
A. So I'm going to say either that's what I meant to say or this is another mistake, because there's a mistake earlier in that answer. It says stromal cells or dermal cells, and I would never say dermal cells. It was germ cells. So either the reporter got it wrong or I misspoke.
Q. Yes. Either way, we now have it corrected. Thank you.
A. Thank you.
Q. Are you familiar with the Wentzensen 2021 article that's another O'Brien article with a coauthor?
A. Is that a recent one, just came out in the last month or so?
Q. Yes.
A. Yes.
Q. Let me show that to you.
MR. ZELLERS: We'll mark that article as Deposition Exhibit 47.
(Whereupon, Deposition Exhibit Wolf-47, Talc, Body Powder and Ovarian Cancer... by Wentzensen et al, was marked for identification.)

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BY MR. ZELLERS:
Q. And you're familiar with this article that came out recently, 2021, correct?
A. Yes.
Q. The authors discuss the epidemiology regarding the different histologic subtypes of ovarian cancer, correct?
A. As that result -- as that confers with the previous O'Brien study, the ones that they looked at in the previous O'Brien study, yes.
Q. If you go to page 7, left-hand column.
A. Okay.
Q. It starts: Overall, these results consistently demonstrate that there is a positive association between talc use and serous ovarian cancers and possibly also endometrioid tumors.
Is that right?
A. That's what the sentence says, yes.
Q. Then they continue: The

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relationship between talc use and the rarer mucinous or clear-cell tumor histotypes is more ambiguous, although it is not clear whether this is due to true etiologic differences or because their rarity makes them difficult to study.
Is that what the authors state?
A. That's what the authors state, which -- the rarity is what I've been talking about all morning long.
Q. You agree with that statement by these authors, correct?
DR. THOMPSON: Object to form.
A. I agree that the rarity is probably -- is a likely reason why we can't see if there's any difference with the different subtypes that are rare.
BY MR. ZELLERS:
Q. It's also possible that it's due to true etiologic differences, correct? That's a possibility?
DR. THOMPSON: Object to form.
A. It's hard to answer that question when we don't have enough cases in most of the studies to know if there's an

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association.
BY MR. ZELLERS:
Q. So in your view, we would need more cases; and if we had more cases --
A. Then we could --
Q. -- that would either give us evidence of an association or not of an association.
DR. THOMPSON: Object to form.
A. Well, in the study with the most cases, there is an association.
BY MR. ZELLERS:
Q. Can you answer my question?
DR. THOMPSON: Actually, I don't think there was a question, but you can ask it again.
BY MR. ZELLERS:
Q. If we had more cases, then that would help us to understand whether there's a true etiologic difference or that there is an association, correct?
DR. THOMPSON: Object to form.
A. In this study that does have more cases, there is an association.
///

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BY MR. ZELLERS:
Q. Well, I understand that. At least these authors, the O'Brien authors, based upon their review and their study, say it's not clear -- well, they say that there is not a demonstrated association with mucinous or clear-cell tumor histotypes and that it's not clear whether this is due to true etiologic differences or because their rarity makes them more difficult to study.
That's what these authors concluded in their recent study, correct?
DR. THOMPSON: Object to form.
A. The authors state the relationship between talc use and rarer mucinous and clear-cell subtypes is more ambiguous. Yes, that's what it says.
BY MR. ZELLERS:
Q. All right. Do you agree that within the last five years, we have a better understanding of how different the five main histologic subtypes of epithelial ovarian cancer are?
DR. THOMPSON: Object to form.
A. We have a better idea -- the

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first part of the question was?
BY MR. ZELLERS:
Q. Sure.
Over the last five years, we now -- you know, medical professionals, science professionals, have a better understanding that the five main histologic subtypes of epithelial ovarian cancer are different, correct?
DR. THOMPSON: Object to form.
A. We have a better understanding of molecular changes that are associated with different subtypes of epithelial ovarian cancer, and five -- I'm assuming the five main subtypes that you're referring to would be low-grade serous, high-grade serous, endometrioid, clear-cell and mucinous? Is that what you're referring to?
BY MR. ZELLERS:
Q. Yes.
A. Okay. I believe we understand more of the molecular pathways, the molecular abnormalities in the different subtypes.
Q. For example, the genetic mutations that are associated with high-grade

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serous carcinoma are different than the genetic mutations that are associated with, for example, clear-cell ovarian cancer, correct?
DR. THOMPSON: Object to form.
A. The most common genetic mutations are different in the different subtypes, but if you look at an individual patient, the genetic mutations in every serous -- every high-grade serous are different.
That statement refers to -- could refer to the common genetic mutations that are found in the different subtypes.
BY MR. ZELLERS:
Q. With that qualification and explanation, you agree with my question, correct?
DR. THOMPSON: Object to form.
A. No. I think that your question was broad and my answer was specific.
BY MR. ZELLERS:
Q. All right. Let me ask it again, then.
Genetic mutations that are

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associated with high-grade serous carcinoma are different than the genetic mutations that are associated, for example, with clear-cell ovarian cancer, correct?
DR. THOMPSON: Object to form.
A. The common genetic mutations, the most common genetic mutations that are found in serous cancers versus mucinous versus clear-cell, high-grade or low-grade serous, are different.
BY MR. ZELLERS:
Q. All right. You're familiar with the concept generally that science has now discovered different genes become mutated in different histologic subtypes, correct?
DR. THOMPSON: Object to form.
A. Again, the common genes that are mutated in high-grade serous are different than the genes that are commonly mutated in low-grade serous and the other subtypes.
BY MR. ZELLERS:
Q. And that helps doctors be able to better treat some of the different histologic subtypes, correct?

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A. Unfortunately, in ovarian cancer, it hasn't yet made a difference in how we treat patients.
Q. So you treat all of the different subtypes of ovarian cancer the same; is that your testimony?
MS. GARBER: Object to the form.
A. No. No, the -- for mucinous tumors, we treat them more like GI tumors. For low-grade serous, we sometimes use different treatments. But for the common high-grade lesions, serous, endometrioid, clear-cell, we treat them the same.
BY MR. ZELLERS:
Q. Environmental carcinogens, like smoking or asbestos, they do not induce all of these different genetic mutations; is that right? I mean, they, by and large, induce one type of genetic mutation, correct?
DR. THOMPSON: Object to form.
A. Are you saying that smoking only induces one type of genetic mutation?
BY MR. ZELLERS:
Q. I'm asking you if that is

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something you are knowledgeable about or not.
DR. THOMPSON: Object to form.
A. I'm going to say I'm not entirely knowledgeable about all the genetic mutations that smoking can cause, but I'm not aware that there's a single one.
BY MR. ZELLERS:
Q. Do you agree that talc does not cause mucinous ovarian cancer?
DR. THOMPSON: Object to form.
MS. GARBER: Object to the form.
A. Mucinous ovarian cancer is one of those rare cancers that I don't know that there's enough in any one study to show a statistical significant difference or not.
Again, not that many studies separate out the subtypes, so I don't know that there's enough information. There's certainly not enough information to say it does not cause mucinous cancer.
BY MR. ZELLERS:
Q. When you reviewed Dr. Clarke-Pearson's deposition in preparation for your deposition, did you see

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that he testified that talc does not cause mucinous ovarian cancer?
DR. THOMPSON: Object to form.
MS. GARBER: Object to the form, misstates his testimony.
A. I don't recall what his testimony said about mucinous cancers.
BY MR. ZELLERS:
Q. I'm going to quote this and you can -- I'm going to ask a question at the end whether you agree or disagree.
MR. ZELLERS: Counsel, you can object if you need to.
BY MR. ZELLERS:
Q. I'm reading from Dr. Clarke-Pearson's deposition, page 699, line 15.
QUESTION: So if I understand you, talcum powder causes all epithelial ovarian cancers except mucinous; is that right?
ANSWER: Yes, that's correct.
Do you agree with that answer?
DR. THOMPSON: Object to form.
That's not the complete testimony.

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MS. GARBER: Join.
A. So I'm going to state what I stated before: I don't know that there's enough cases of mucinous separated out, and I would -- to say that.
DR. THOMPSON: Let us know when it's a good time for a break in the next new minutes.
MR. ZELLERS: You guys can take a break right now, if you'd like.
THE WITNESS: Can I say, are we almost done with this case or do you have quite a bit more with this first case?
MR. ZELLERS: I have quite a bit more on this first case.
THE WITNESS: Okay.
MR. ZELLERS: Off the record.
(Recess taken, 10:13 a.m. to 10:24 a.m. CDT)
BY MR. ZELLERS:
Q. Dr. Wolf, do you agree that Bradford Hill does not apply to specific causation?
DR. THOMPSON: Object to form.

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A. Bradford Hill looks at causation. Are you asking does it -- what do you mean, specific causation?
BY MR. ZELLERS:
Q. So specific causation would be whether, in an individual case, talcum powder caused ovarian cancer. So let me ask this.
Do you agree that the Bradford Hill criteria cannot be applied to determine whether talc caused an individual woman's ovarian cancer?
DR. THOMPSON: Object to form.
A. So when I'm looking at cause of an individual woman's cancer, such as Ms. Bondurant, I look at all of the risk factors and all of the protective factors, everything in the patient's history and pathology, whatever I have to review.
I don't believe I call that a Bradford Hill. I would call that a differential diagnosis, review of the evidence, evidence -- whatever evidence there is.
But I'm going to say on a day-to-day basis, when I take care of

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patients, I don't consider each individual patient a Bradford Hill. It's a similar process, but that's not what I would call it.
BY MR. ZELLERS:
Q. In Ms. Bondurant's case, what was your methodology for determining that talcum powder was a substantial contributing cause of her clear-cell ovarian cancer?
A. So reviewing everything that I had to review from her, which was medical records, the PPF -- I think it's called a PPF -- her daughter's deposition, all the things that I had to review, and knowing what the risk factors for ovarian cancer are and protective factors are, evaluating those in her case.
Q. Have you reviewed any published medical literature that provides you with a methodology to determine the specific cause of an individual woman's ovarian cancer?
DR. THOMPSON: Object to form.
A. So just the tenets of evidence-based medicine, which I think are reviewed -- I looked at before my deposition, reviewing to -- my old deposition, and up to

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date, just to get a definition of what I do every day. I don't generally look that up because it's just something that sort of comes natural after 30 years.
BY MR. ZELLERS:
Q. You conducted a differential diagnosis based on a series of questions; is that right?
A. Yes.
Q. And you're the one that came up with those questions, correct?
A. Yes.
Q. Do you agree that a differential diagnosis is a list of possible diseases that could be causing a patient's symptoms?
DR. THOMPSON: Object to form.
A. That could be one way of looking at a differential diagnosis, or a list of different risk factors that could be causing a patient's illness.
BY MR. ZELLERS:
Q. To perform a differential diagnosis, you have to consider competing diagnoses; is that right?

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DR. THOMPSON: Object to form.
A. All the possibilities, yes.
BY MR. ZELLERS:
Q. Isn't the critical component of a differential diagnosis the search for a diagnosis?
DR. THOMPSON: Object to form.
A. So the goal in trying to find a diagnosis is, yes, to find out what the diagnosis is, and the goal of finding out a cause would be to see what the risk factors are, to see what's the most likely cause or causes.
In a disease like ovarian cancer, it's multifactorial, so there may be multiple risk factors.
BY MR. ZELLERS:
Q. The signs and symptoms of ovarian cancer include abdominal distension, bloating, pelvic pressure, generalized wasting of extremities; is that right?
A. So abdominal bloating, pelvic pain/pressure, early satiety, low back pain, fatigue, changes in bowel or bladder function. I wouldn't list wasting of the

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extremities as a common symptom for women with ovarian cancer.
Q. Those signs and symptoms, and in your differential, the competing diagnoses would be bowel obstruction, fibroids, cirrhosis and ovarian cancer; is that right here?
DR. THOMPSON: Object to form.
A. The challenge with the symptoms of ovarian cancer is they are quite vague, so it could be as simple as IBS and as complicated as colon cancer, a bladder infection. Multiple things can cause the same symptoms. That's why it's a challenge to find ovarian cancer because the symptoms are so nonspecific.
BY MR. ZELLERS:
Q. There's no issue with the diagnosis in Ms. Bondurant's case, though? You agree that she was correctly diagnosed with clear-cell ovarian cancer; is that right?
A. Yes.
Q. When you practiced as a clinician, you wouldn't use a differential

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diagnosis to identify the cause of any woman's ovarian cancer; is that right?
DR. THOMPSON: Object to form.
MS. GARBER: Object to the form.
A. I would use a differential -- I don't know what else to call it other than a differential diagnosis.
BY MR. ZELLERS:
Q. As I understand your methodology for determining that talc was the specific cause of Ms. Bondurant's ovarian cancer, what you did is you looked at her other potential risk factors and her talc use; is that right?
DR. THOMPSON: Object to form.
A. I looked at all the medical records that I had available for her, which included her medical history, her risk factors. I looked at the deposition of her daughter, the PPF, everything that I had available to review to assess.
BY MR. ZELLERS:
Q. You did not need, in this case or in any of the cases, a report from

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Dr. Godleski either finding or not finding particles, correct?
DR. THOMPSON: Object to form.
A. In Ms. Bondurant's case, I have not yet seen a report of -- from Dr. Godleski, but as I stated in my report, if there are particles or fibers in her tissue, it would support causation, but I don't think it's a requirement.
BY MR. ZELLERS:
Q. The absence of a finding of talc fibers or particles by Dr. Godleski in this or in any case does not negate or change an opinion that you formed as to causation between talc use and a particular woman's ovarian cancer?
A. If the rest of the history of talc usage supported talc, it would not, because Dr. Godleski gets a few blocks from a small amount of the tissue that's removed and never has access to all of the tissue.
So the fact that the few blocks that he sees and can analyze doesn't show talc particles or fibers doesn't mean there aren't any there.

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Q. All right. You testified to the jury in the Kleiner case that ovarian cancer is multifactorial, correct?
A. Yes.
Q. And you've testified to that in this deposition; is that right?
A. Yes.
Q. In Kleiner, you told the jury that a cell is like a Jenga game. You pull out a block -- you pull a block out until the tower falls.
So talc could be an environmental factor that can pull a block out. BRCA could be a factor that pulls out another block, until the whole thing falls down.
Is that the analogy?
A. Yeah, I was trying to come up with something that -- visual that people could understand the concept of a multifactorial disease.
Q. You agree that science doesn't really know what causes ovarian cancer, with the exceptions that we talked about yesterday? The genetic mutations that I

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believe we agreed were 10 to 15% of the cases of ovarian cancer, talc, which at least Dr. Cramer ascribes 10% of the cases.
But other than that, we really don't know what causes ovarian cancer; is that right?
DR. THOMPSON: Object to form.
A. So ovarian cancer, like all cancers, is caused by a series of genetic mutations. In some cases in ovarian cancer, we know what those mutations are because it's something that the patient inherited. In many cases, we don't know where those mutations came from.
And Dr. Cramer's paper actually said that 10% of ovarian cancers could be prevented if talc use was eliminated, not that it caused 10% of ovarian cancer cases.
So we definitely know that ovarian cancer is caused by a series of genetic mutations. In some cases, we know what caused them; and in some cases, we don't.
BY MR. ZELLERS:
Q. If there's a substantial number

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of cases where we don't know the cause of a woman's ovarian cancer -- and let me back up.

We agreed, I think, yesterday that a woman can have -- you know, be tested positive for BRCA, but BRCA may not cause her ovarian cancer, correct?

A. Yes. A mutation of BRCA.

Q. A mutation in BRCA.

A woman may use talc or be exposed to talc, but it's possible that talc does not cause her ovarian cancer, correct?

A. It's possible that she uses talc and does not get ovarian cancer.

Q. So given that, how, in any individual woman, can you ever determine the actual cause of her ovarian cancer?

DR. THOMPSON: Object to form.

A. Given what?

BY MR. ZELLERS:

Q. Well, a woman can have a risk factor for ovarian cancer and get ovarian cancer from something totally different, correct?

DR. THOMPSON: Object to form.

A. Well, I think -- I thought what

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we were talking about is that a woman can have a risk factor for ovarian cancer and not get ovarian cancer, but if she has that risk factor and she gets ovarian cancer, I would generally attribute that risk factor as part of the reason that she got -- a cause of her cancer.

BY MR. ZELLERS:

Q. But we don't know that's true in any individual woman's case; is that right?

DR. THOMPSON: Object to form.

BY MR. ZELLERS:

Q. I mean, a woman may have -- and this may go back to the --

DR. THOMPSON: Did you want her to answer that question or not?

Well, you went immediately into another question before she answered your first one. But if you don't want her to answer, that's fine.

BY MR. ZELLERS:

Q. Is there a question that you feel is pending you need to answer, Doctor? I don't want to stop you --

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DR. THOMPSON: I don't care if she answers it, but generally you wait for an answer before you ask another question. I'm just saying.

MR. ZELLERS: Okay. Is it okay if we continue? I mean, the witness and I, I think, are doing okay.

DR. THOMPSON: You don't need my permission to continue.

MR. ZELLERS: Okay.

BY MR. ZELLERS:

Q. So, Doctor, I guess let's go back and try to start over here.

We talked yesterday that a woman -- a hypothetical woman may have five different risk factors for ovarian cancer and that we don't know specifically which of those risk factors, or if any of those risk factors, actually caused her ovarian cancer.

Is that -- that hypothetical is -- can be accurate, correct?

DR. THOMPSON: Object to form.

MS. GARBER: Object to the form.

A. So are you asking me about a

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hypothetical? I'm not sure what your question is.

BY MR. ZELLERS:

Q. Yeah. Let's talk about a hypothetical here.

A. Yes.

Q. So we have a woman who has hormone replacement therapy, who has age, who has obesity.

What are a couple of other risk factors for ovarian cancer that we'll put in our hypothetical?

A. Well, we can give her endometriosis and make her infertile. How about that?

Q. Hormone replacement therapy, age, obesity, endometriosis?

A. Infertility.

Q. Infertility.

If this hypothetical woman with these risk factors develops ovarian cancer, it's impossible to say what the cause of her ovarian cancer is, correct?

DR. THOMPSON: Object to form.

A. I would say that each of those

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things can be a cause of her ovarian cancer.
BY MR. ZELLERS:
Q. They can be. It's possible. But we can't say to a probability which, if any, of those things caused her ovarian cancer, correct?
DR. THOMPSON: Object to form.
MS. GARBER: Object to the form.
A. It would be my assumption that it was all of those things were a cause of her ovarian cancer.
BY MR. ZELLERS:
Q. So your methodology and the way you approach these cases is that if a woman has a risk factor for ovarian cancer, you assume that those risk factors actually are contributing causes; is that right?
A. I assume that they may be a contributing cause.
Q. And that's your methodology with respect to talc use? If a woman has a history of talcum powder use, just as you assume that family history, hormone replacement therapy, age, obesity would be

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contributing causes to her ovarian cancer, if she has talc use, you believe that's a contributing cause as well, fair?
DR. THOMPSON: Object to form.
A. If, in reviewing the whole thing, she -- there was adequate evidence that she had talc use, I would consider that a cause of her cancer.
BY MR. ZELLERS:
Q. If she has a family history, if she has hormone replacement therapy, if she has age, if she has obesity that rise to the level of risk factors, you would also say those are contributing causes to her ovarian cancer, correct?
DR. THOMPSON: Object to form.
A. Again, ovarian cancer is multifactorial, so all of those things could be a cause of her cancer.
BY MR. ZELLERS:
Q. In your report, you state: Not everyone who has an inherited BRCA mutation gets ovarian cancer and not everyone who gets ovarian cancer has an inherited BRCA mutation.

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You agree with that, right?
A. Yes.
Q. Let's take BRCA as an example. We know the science on the percentage by which a woman's risk of ovarian cancer is increased if she's BRCA positive, correct?
A. Yes.
DR. THOMPSON: Object to form.
BY MR. ZELLERS:
Q. In your report, page 4, you state that if you're BRCA1 -- if a patient is BRCA1, you have a 39 to 40% lifetime risk of developing ovarian cancer, correct?
A. Yes.
Q. If you have BRCA2, you have an 11 to 27% increased lifetime risk of ovarian cancer; is that right?
A. Yes.
DR. THOMPSON: Object to form, just by leaving out the gene mutation when you say BRCA1 and BRCA2.
MR. ZELLERS: I'm trying to read from the doctor's report.
BY MR. ZELLERS:
Q. Am I reading this inaccurately,

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Doctor?
DR. THOMPSON: Yes.
A. Yes. It says BRCA1 gene mutation.
BY MR. ZELLERS:
Q. So you would like me to amend my statement.
If you're a BRCA1 gene mutation, you have a 39 to 46% lifetime risk of developing ovarian cancer, correct?
A. If a woman has, not -- you aren't that mutation. If you have the mutation.
Q. All right. And if a woman has a BRCA2 gene mutation, she would have an 11 to 27% increased lifetime risk of ovarian cancer; is that right?
A. She would have an 11 to 27% lifetime risk of developing ovarian cancer, not increased lifetime risk, but a lifetime risk.
Q. So if we have a woman who is BRCA-positive, she's at a 40% lifetime risk of ovarian cancer, and you consider BRCA to be a cause of her ovarian cancer; is that

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right?
A. Yes. If she has ovarian cancer, yes.
Q. Is it your opinion that any individual woman who is BRCA-positive and who gets ovarian cancer, that you don't think the BRCA mutation alone could have caused her ovarian cancer?
DR. THOMPSON: Object to form.
BY MR. ZELLERS:
Q. Is that your testimony and opinion?
DR. THOMPSON: Object to form.
A. The inherited gene mutation in one allele of the BRCA gene alone does not cause cancer.
BY MR. ZELLERS:
Q. There has to be something else to cause the cancer, ovarian cancer, in this case, in your opinion; is that right?
DR. THOMPSON: Object to form.
A. Yes, that is correct.
BY MR. ZELLERS:
Q. If we go back to your analogy that you used in the Kleiner trial, BRCA gene

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mutation is just one of the Jenga pieces, fair?
A. Yeah, one hit, one injury to the cell.
Q. And we talked yesterday that you believe, and I think we looked at Dr. Clarke-Pearson, that it takes at least 10 to 15 injuries or mutations to the cell?
A. The literature supports 5 to 10.
Q. Does that mean that if a woman is -- strike that.
Does that mean that if a woman does have a BRCA gene mutation, that that increase in risk is not high enough to say that BRCA alone caused the woman's ovarian cancer?
DR. THOMPSON: Object to form.
A. I do not understand that question.
BY MR. ZELLERS:
Q. So whether it's a BRCA1 gene mutation or a BRCA2 gene mutation, that in and of itself, in your opinion, does not cause a woman's cancer, ovarian cancer.

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There needs to be something more?
A. Yes.
DR. THOMPSON: Object to form.
A. That is true.
BY MR. ZELLERS:
Q. Talc -- are you of the view that talc increases a woman's risk of ovarian cancer by 20 to 30%?
A. 20 to 40%.
Q. And you consider talcum powder use to be a cause of ovarian cancer, correct?
A. Yes.
Q. Similar to BRCA, it's your opinion that talc alone is not sufficient to cause an individual woman's ovarian cancer, correct?
A. Any risk factor alone that causes only one hit to the cell would not cause ovarian cancer. My concern about talc is that continued use, long-term use could cause more than one injury to the cell.
The BRCA mutation doesn't change over a woman's lifetime; it's that one mutation. But if you have a continuing injury, then you could have more than one.

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Q. Generally, is it your opinion that in order for ovarian cancer to be caused, it takes more than talcum powder use?
DR. THOMPSON: Object to form.
A. It takes more than one gene mutation for a normal cell to become a cancerous cell. My opinion is that talc use could cause one, it could cause two, it could cause more injuries to the cell, and that's going to vary from patient to patient based on her underlying physiology and any other risk factors that she may or may not have.
BY MR. ZELLERS:
Q. So in your opinion, in some cases, talc use alone may not be sufficient to cause an individual woman's ovarian cancer; it may require other things, other risk factors?
A. That is not what I said.
MS. GARBER: That's not what she said at all.
MR. ZELLERS: Ms. Garber, please. You can object to form --
MS. GARBER: Okay. Object to form.

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MR. ZELLERS: -- but don't be making comments and shouting out. Okay.

MS. GARBER: Just a total misrepresentation of what she said. I just blurted it out. I apologize.

DR. THOMPSON: But you weren't loud, comparatively speaking.

BY MR. ZELLERS:

Q. BRCA.

A. BRCA.

Q. Gene mutation.

A. Yes.

Q. And we know that it increases or causes results in a lifetime risk -- increased risk of -- depending upon the mutation, of between 11% and 46%, correct?

A. So what that means is that if you have a BRCA1 mutation, by the time you're at age 70, there's around a 40% chance you could have ovarian cancer.

If you have a BRCA2 mutation, by the time you get to age 70, there's an 11 to 27%.

I just picked the middle number

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because I couldn't do the math fast enough in my head.

Q. And, in your opinion, if a woman uses talcum powder for a sufficient amount of time, that woman has an increased risk of ovarian cancer of somewhere between 20 and 40%, correct?

A. Yes.

Q. In an individual woman's case, talcum powder use may alone be sufficient to cause ovarian cancer, depending upon the number of genetic mutations that are caused, or the talcum powder use may require additional risk factors in order to cause the ovarian cancer.

Is that fair?

A. So the talcum powder use could cause more than one genetic hit to the cell. And each individual woman's background could be different, and what -- her body's reaction to the talcum powder -- so the talcum powder alone can be a cause, and there may be some other risk factor that she has or some other cause.

Q. The talcum powder use would

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need to cause either 5 to 10 hits to the cell or 10 to 15, depending upon how many genetic hits are required to the cells to cause ovarian cancer.

Is that your opinion?

DR. THOMPSON: Object to form.

A. Whatever causes the cancer, there has to be 5 to 10 injuries to the cell that result in genetic changes in the cell that can cause -- that cause cancer.

BY MR. ZELLERS:

Q. Those hits or injuries to the cell could come from talcum powder use, they could come from BRCA gene mutations, they could come from hormone replacement therapy, family history, age, obesity, correct?

A. So we know that BRCA mutations is one of -- would be one of those hits, right? Family history could indicate that there's some genetic underlying hit. Endometriosis, like talc, from inflammatory changes could cause a hit or multiple hits.

Q. In Ms. Bondurant's case, is it possible to identify how many other causes of her ovarian cancer were at play other than,

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in your opinion, her talc use?

DR. THOMPSON: Object to form.

BY MR. ZELLERS:

Q. And if you don't understand that question, I'll try to do better.

A. Can you try to do better?

Q. Sure. I will try.

A. You knew when the words were coming out of your mouth, right?

Q. I can't promise.

Are there likely other causes of Ms. Bondurant's clear-cell ovarian cancer, in addition to talcum powder use, in your opinion?

A. So in my review of her risk factors and her protective factors, she did have a family history that could increase her risk, so that could also be a cause of her cancer.

Q. Anything else?

A. I think the endometriosis question is still not clear to me because we don't have pathologic confirmation of endometriosis.

Q. Anything else?

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A. I don't think there's anything else in her history that I identified.
Smoking would be mucinous cancer, and she did not have mucinous cancer.
Q. In Ms. Bondurant's case and in any case, we have the possibility of factors that are, as of now, unknown, correct? That's true for any --
A. All cancers, yeah.
Q. Okay. I asked you this yesterday and I don't think we ever reached an agreement, but new question.
In Ms. Bondurant's case, are you able to ascribe a percentage that talc caused her ovarian cancer as compared to a percentage that family history caused her ovarian cancer as compared to a percentage that endometriosis caused her ovarian cancer?
DR. THOMPSON: Object to form.
A. I don't know how I would ever -- I don't know how to answer that question because I don't think of it as a percentage.
Are you -- so I guess I'm still not understanding your question.

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BY MR. ZELLERS:
Q. I'm asking -- my job today is to ask you your opinions.
A. Yes.
Q. So do I understand correctly that, in your opinion, you cannot ascribe a percentage cause of talc to Ms. Bondurant's ovarian cancer or a percentage cause of family history to her ovarian cancer or a percentage cause that endometriosis caused her ovarian cancer?
A. Are you asking me to rank what I think the causes are?
Q. Well, here's what I'm asking you to do. In Ms. Bondurant's case, she has ovarian cancer.
A. Yes.
Q. Did talc contribute 20% to her ovarian cancer? Did it contribute 60% to her ovarian cancer? Similarly, did family history contribute 20% to her ovarian cancer or 40 or 60%? Did endometriosis contribute 20 or 30 or 40%?
Are you able to give an opinion among the different risk factors as to what

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their proportionate cause was of Ms. Bondurant's ovarian cancer?
DR. THOMPSON: Object to form.
A. That is not something that makes any clinical sense to me, so I'm not sure what you're asking. And I would never say, well, it's a 20% chance that this caused it and a 20% that that caused it and a 20% chance that that caused it. That sounds like that's what you're asking me.
BY MR. ZELLERS:
Q. Well, let me try to do a little better. And if you can't -- I just want to know if that's an opinion that you either have or may have.
Can you attribute or break down among the different risk factors for ovarian cancer, and in Ms. Bondurant's case, we've got talc use, we've got family history and possibly endometriosis.
And your opinion is that talc use is a cause, family history may be a cause, and endometriosis, if it was verified, may be a cause, fair?
A. Yes.

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Q. And I think you told me earlier that your assumption, when you looked at these cases, is: If there is an identifiable risk factor, that it has some role in causing the ovarian cancer, correct?
A. Yes.
Q. So among, in Ms. Bondurant's case -- in Ms. Bondurant's case, among the risk factors, are you able to say that you think talc was 50% responsible for her ovarian cancer and family history was 30% responsible and endometriosis is 20% responsible, or is that not something that you think, you know, as an expert, that you can ascribe percentages of the risk factors to the cause of her cancer?
DR. THOMPSON: Object to form.
A. In an individual patient, I would not assess percentage of cause from different individual risk factors.
BY MR. ZELLERS:
Q. Go back to the -- is it the Wentzensen article? That's the 2021 article that we marked a bit ago that was written with O'Brien as a coauthor.

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MS. GARBER: 47.
MR. ZELLERS: What's that?
MS. GARBER: 47.
MR. ZELLERS: Thank you.
THE WITNESS: 47? How did I get so out of order.
BY MR. ZELLERS:
Q. It shouldn't be too far down the stack.
A. There it is. It got to the bottom somehow.
There we go. Got it.
Q. Go to page 9.
A. So this is in her conclusions, or his conclusions?
Q. Right.
A. I guess he's a man.
Q. We'll assume Nicholas, yes.
A. We'll assume Nicholas.
Q. The authors state, in that first paragraph on the left-hand side, which is part of the conclusion: Independent of the underlying cause, the association between powder use and ovarian cancer risk is weak. The low relative risk translate --

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A. Wait. Wait. I'm looking at the conclusion. I thought you said the first paragraph in the conclusion.
Q. I'm sorry. I'm on page 9, so, no, it is the first paragraph on page 9 --
A. Okay.
Q. -- which is a part of the conclusion.
A. Okay. I gotcha now.
Q. All right. So first sentence: Independent of the underlying cause, the association between powder use and ovarian cancer risk is weak.
Do you agree with that?
A. No.
Q. The authors go on to state: The low relative risk translates to a very low absolute risk increase, given the rarity of ovarian cancer.
Do you believe that's true?
A. I believe that's their conclusion. That's what they say.
Q. Do you agree or disagree or don't have an opinion on that statement?
A. I have a slightly different

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opinion.
Q. What is your opinion?
A. That in something that has no clear medical benefit, that if it increases the risk of a cancer, it should not be used. And I would not call the association weak. It's a rare disease and a 10%, 20%, 30% increased risk is too much.
Q. Do you agree that there is a very low absolute risk increase, given the rarity of ovarian cancer?
A. I think I already answered that question, and I do not agree with that statement.
Q. Further down, the authors say: Given the inability...
Do you see where I'm at?
A. Yes.
Q. Given the inability to attribute a clear causal factor to the observed associations, the lack of a good experimental model, the lack of a specific biomarker for powder-related carcinogenesis, and the inability to rule out confounding by indication, it is difficult to conclude that

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the observed associations are causal.
Do you agree with that?
A. There are some things in that statement that I disagree with and there are some that I agree with.
I do think there is evidence to support a causal factor. I do agree there's not a good experimental model. I talked about that several times yesterday. I do agree that there's a lack of a specific biomarker.
I'm not sure what it means by inability to rule out confounding by indication, so I don't have an answer for -- an opinion about that.
Q. Okay.
A. And I disagree with it's difficult to conclude the observed associations are causal.
Q. These authors in the paper we just looked at discuss the inability, given the body of epidemiology, to rule out the possibility that an unknown confounder is driving the relative risk we're seeing in some of the case-controlled studies.

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Did you consider that in forming your specific causation opinion regarding Ms. Bondurant?

DR. THOMPSON: Object to form.

A. So I'm going to step back and say in reviewing all the epidemiologic literature as a whole, if they were not so consistent where 91% of them show a positive association, that would be more concerning to me, but that's not true.

In Ms. Bondurant specifically, all of the known risks or protective factors I evaluated, and we talked about the ones that she had and those that she did not have, and so I guess what's the question about Ms. Bondurant specifically?

BY MR. ZELLERS:

Q. Whether or not you considered the possibility and the inability to rule out unknown confounders, you know, potential risk factors or confounders that have not been identified.

DR. THOMPSON: Object to form.

A. Well, I would never think about a confounder necessarily in a patient.

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Unknown risk factors, that's -- that could be a possibility.

The risk factor -- we talked about this yesterday. The risk factors for ovarian cancer have been pretty stable for a long time, for the last 30 or 40 years. Obesity has become more clear recently only because obesity is so much more common and we can study it better.

Q. Is it your testimony that risk factors for ovarian cancer -- strike that.

Is it your testimony that new risk factors for ovarian cancer have not been identified in the last 20 to 30 years?

DR. THOMPSON: Object to form.

A. My testimony is that most of the risk factors for ovarian cancer have been known about or suspected and refined somewhat over the last 30 or 40 years.

We knew in the '80s that family history was a risk factor. It wasn't until we had the human genome project and were able to identify what those family risk factors might be, an inherited genetic mutation.

We talked yesterday about

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chlamydia. We've known for a while that chronic PID can increase the risk of ovarian cancer. But as we've learned more about it, we've learned that specifically chlamydial PID infections, which are the most common cause of PID, increase the risk of ovarian cancer.

BY MR. ZELLERS:

Q. You said a moment ago or talked about the epidemiologic studies and said 91% were -- showed a positive association. Let me just clarify.

Some of those that show a positive association are statistically significant and some are not, fair?

A. Some of them the confidence interval crosses 1 and some of them -- more than half of them it does not.

Q. In terms of a confounder -- I'm not sure we're on the same page, but let me use an example.

So if you're studying an association between coffee and pancreatic cancer, you need to consider whether cigarette smoking is more common in coffee

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drinkers than in the rest of the population, right, if that's what you were studying?

A. To look for other potential risk factors, yes.

Q. Right. So --

A. Yes.

Q. So in my -- well, it's not really a hypothetical. I guess it's an analogy.

There may be an association between coffee and pancreatic cancer, but one of the things a scientist or medical professional would want to look at is whether there's a confounder, there's something about that coffee group that makes them more susceptible to pancreatic cancer, such as cigarette smoking. Fair?

A. Fair.

Q. So in that example, cigarette smoking could be a confounder, because if more coffee drinkers are smokers than non-coffee drinkers, the association may be between smoking and pancreatic cancer and not, you know, between coffee drinking and pancreatic cancer.

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DR. THOMPSON: Object to form.
BY MR. ZELLERS:
Q. It may be the smoking that's driving that association.
DR. THOMPSON: Object to form.
A. Or it could be both. So you would want to assess that in doing a univariant analysis, looking at each individual factor on its own, and a multivariant analysis where you look at the contraindication of all of them to see is one of them still statistically significant in that case.
BY MR. ZELLERS:
Q. In our case, your opinion is you don't believe that there is an unknown confounder with talcum powder use as it relates to an association with ovarian cancer?
A. I don't believe anything has been identified since the first publication in the '80s that there's something else that's associated with this that's causing ovarian cancer.
And what I mean is talcum

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powder use has not been found to be associated with a confounder in the 40 years since -- nearly 40 years since it's been found to be associated with ovarian cancer.
Q. All right. It's possible, but in your opinion unlikely, that Ms. Bondurant could have gotten her ovarian cancer because of a cause that science has yet to discover.
Is that a good summary of your opinion --
DR. THOMPSON: Object to form.
BY MR. ZELLERS:
Q. -- on that point?
A. No. On the point of confounding, my point is that as long as we've known of the association between genital powder use and ovarian cancer, there have not been found any confounders that would be the cause versus the genital talcum powder use.
Q. And I'm going to step beyond that.
A. Okay.
Q. We've acknowledged and we've discussed that there may be unknown causes of

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ovarian cancer, correct?
A. Yes.
Q. And you acknowledge in any woman's case it's possible that their ovarian cancer is caused by an unknown or undiscovered cause, but you believe in Ms. Bondurant's case the likely cause is her talcum powder use?
DR. THOMPSON: Object to form.
A. That a cause of her cancer is talcum powder use.
BY MR. ZELLERS:
Q. The route of talcum powder exposure in Ms. Bondurant's case was through migration, correct?
A. Yes.
Q. You believe that her ovarian cancer was caused from talcum powder traveling to her ovary -- well, strike that.
We talked yesterday about inhalation with Ms. Gallardo. Same question with Ms. Bondurant.
Do you believe that her ovarian cancer was caused from talcum powder traveling to her ovaries through inhalation?

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A. I -- my assessment is that it's from her genital talcum powder use and migration. Inhalation could be a part of that.
Q. You've not attempted or made any determination of how much talc Ms. Bondurant was exposed to over the period of time she used talcum powder; is that right?
DR. THOMPSON: Object to form.
A. So because what I have on her talcum powder use, it says from infancy to 2015, baby powder, and Shower To Shower from '70 to '80. There's no correlation between infant use of powder and cancer, as far as I'm aware. And so assuming that she went through menarche around the time of 12, which would be a little older than average, but we'll say 12, and she used it three to five times a week until 2015, but I know she had her tubes tied in 1987 -- I'm doing a lot of math here -- I think it was something like 16 years, 15 years of use, and I multiplied that by four if she used it three to five times a week, and it was something like 5600

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times that she used it, to try to get an assessment of how much she used.
BY MR. ZELLERS:
Q. And in your view, that amount of usage would be a sufficient amount of talcum powder to, in your opinion, be a cause of her ovarian cancer, correct?
A. Certainly that's supported in the epidemiologic literature where they looked at --
Q. We talked yesterday --
A. -- women with that much use.
(Simultaneous discussion interrupted by the stenographer.)
A. Where they assessed that -- the amount of use. I don't remember my exact words, but that seems about right.
BY MR. ZELLERS:
Q. I believe I understand your opinion to be that in a given case, there may be an insufficient amount of talcum powder use for you to conclude that the talcum powder use is a cause of ovarian cancer, but here there's sufficient use; is that right?
A. So it's not just amount of use.

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It's -- it's is the tract open. If somebody got their tubes tied at 21 and started using talcum powder daily at 28, that would be hard for me to make an assessment of use.
If somebody used talcum powder once in their entire life, that would be a challenge.
Q. And I think we talked yesterday that you've looked at some cases and have determined there's not enough evidence that talcum powder caused ovarian cancer, and those would be examples of cases, you know, hypothetical examples --
A. Hypothetical.
Q. -- yes, in which you would not think there was sufficient use for talcum powder to be a cause, correct?
A. That's correct.
Q. So while you, you know, don't have a precise estimate of the amount of talcum powder exposure that Ms. Bondurant had, in your view, she had sufficient exposure?
A. Yes.
Q. Does it matter to you, when you

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come up with or develop a case-specific opinion, whether a woman alleges that she put the talcum powder on their underwear or if they put it on pads or if they actually put it on their body? Does any of that matter to you in terms of case-specific opinions?
DR. THOMPSON: Object to form.
A. You mean put it on their genital area as -- directly on their body?
BY MR. ZELLERS:
Q. Yes, as opposed to putting it on pads or putting it in their underwear.
A. Not specifically.
Q. All of those, if there was sufficient duration, would be the types of use that you believe could cause or result in the migration of the talcum powder to the fallopian tubes and the ovaries; is that right?
A. So all of those ways -- and I don't -- I wouldn't say it's duration specifically, because some of it is also the individual patient's reactions to the talc, the body's reaction to it. Duration is part of that.

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Q. So in your opinion, the science equally supports the ability of talc applied externally to the underwear to travel to the ovaries as it does talc applied to the perineum to travel to the ovaries, fair?
A. So some of the studies looked at those specific questions and others did not. It's my opinion that generally all of those would have the same access.
Q. We talked yesterday about the potential for bias of a woman who's making a claim, you know, in a case that talcum powder use caused ovarian cancer.
I believe your methodology and the way you approach these cases is to assume that any of the women who used talcum powder, to believe their use; is that right?
DR. THOMPSON: Object to form.
A. Yes, generally. If they're deposed, it's under oath, I would assume they're telling the truth.
BY MR. ZELLERS:
Q. You do not consider that there may be a bias because a particular patient or plaintiff has brought a lawsuit? I mean,

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you -- you don't consider that, correct?
A. I would assume that if they were under oath, that their bias would be negated. I wouldn't lie about something under oath to try to get what I wanted.
Q. In your report you describe the inflammatory properties of talc when introduced into the peritoneal cavity. That's your report, page 5.
A. Uh-huh.
Q. And that J&J submitted a patent for nonirritating starch-based dusting powder due to the severe postoperative complications and strong inflammatory reaction.
Did I reference that correctly from page 5 of your report?
A. I'm looking at page 5.
Q. Sure.
A. In 1998, Janssen, a subsidiary of Johnson & Johnson, changed -- oh, that's the diaphragm part.
In 1953, Johnson & Johnson submitted a patent application for a nonirritating starch-based dusting powder due to severe postoperative complications and

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strong inflammatory reactions frequently caused by talc.
Yes.
Q. Do you think that the strong inflammatory reaction took place in Ms. Bondurant for decades with no symptoms?
A. Chronic inflammation can have no symptoms. It's a local cellular reaction that causes cancer, not a systemic reaction.
Q. Is that generally how chronic inflammation operates in the human body?
A. Depends on what the chronic inflammation is causing. And it can -- when we think about cancer specifically and inflammation as a cause, generally cancer is not a painful process. It's a change at the cellular level that changes the cells there, does not cause a systemic inflammatory reaction. It's happening right there at the cell.
Q. In your view, can chronic inflammation cause pain at times?
A. Chronic inflammation for some diseases causes pain, such as rheumatoid arthritis.

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Q. Pelvic inflammatory disease would be painful; is that right?
A. Well, acute pelvic inflammatory disease is painful. Chronic inflammatory disease may or may not be painful.
Q. Talc and the way talc operates, in your view, it induces chronic inflammation, correct?
A. Yes.
Q. In your view, that's a completely silent-type activity, correct? And by silent, I mean it doesn't cause pain; it is -- it's not something that a patient would be aware of?
A. Generally not.
Q. And that's why ovarian cancer is diagnosed so late; is that right?
DR. THOMPSON: Object to form.
A. No, those two things are separate. Ovarian cancer is diagnosed late because the symptoms of ovarian cancer are subtle and they're symptoms that are common among other things. It has nothing to do with inflammation.
///

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BY MR. ZELLERS:
Q. Well, if the inflammation was of a type that caused pain or discomfort to a patient, then that might result in her ovarian cancer being diagnosed earlier, correct?
MS. GARBER: Object to the form.
A. That's a lot of hypotheticals, but possibly.
BY MR. ZELLERS:
Q. Right. I mean, one of the factors, at least in your view, as to why ovarian cancer is diagnosed late is because if there is a chronic inflammatory process that's ongoing that's causing and/or contributing to the ovarian cancer, it's not causing pain, correct?
DR. THOMPSON: Object to form.
BY MR. ZELLERS:
Q. It's not causing discomfort to the patient?
A. So the beginning of that question, I thought you were asking why do I think ovarian cancer is found late. And I

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think ovarian cancer is found late because the symptoms are nonspecific and they happen in women who have -- more commonly have those symptoms from a different diagnosis, and cancer generally does not cause pain.

Do I think that the chronic inflammatory response that talc and endometriosis and incessant ovulation and a lot of other things can cause -- that can cause ovarian cancer can cause pain? No. Those two things I think about separately.

Q. Surgical gloves and talc on surgical gloves can cause a strong inflammatory reaction; is that right?

MS. GARBER: Object to the form.

A. An acute inflammatory reaction.

MR. ZELLERS: Ms. Garber, did you say something?

MS. GARBER: I said object to the form.

MR. ZELLERS: Okay. And, I'm sorry, could you read the witness' answer to me again? Sorry.

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(The following portion of the record was read.)

ANSWER: An acute inflammatory reaction.

(End of readback.)

BY MR. ZELLERS:

Q. So does an acute inflammatory reaction generally cause pain?

A. It can.

Q. And I guess similarly a chronic inflammation may or may not cause pain, correct?

A. Depending on the site and the level of the inflammation, whether it's systemic or cellular.

Q. Does science understand or can science explain why some chronic inflammation is painful and other chronic inflammation is not?

A. Some of it is because of the substances that cause the -- the substances released by the cells, in this case, the ovarian cells themselves or any inflammatory cells, macrophages around the ovarian cells,

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the substances that they secrete that cause the oxidative stress. If they're localized or if they are systemic, things like interleukins and growth factors and other cytokines that cells release.

Q. We discussed yesterday that it's your opinion that the talcum powder causes, in this case, Ms. Bondurant's ovarian cancer, correct?

A. So we didn't talk about Ms. Bondurant yesterday.

Q. I understand, and so let me ask -- or try to ask a better question. I'm trying to generalize this.

You're not saying in Ms. Bondurant's case that her ovarian cancer was caused by asbestos or by heavy metals. I mean, those are not opinions -- specific opinions that you have, correct?

DR. THOMPSON: Object to form.

A. So my opinion is it's her talcum powder use, which has been shown to have platy talc, fibrous talc, asbestos, heavy metals, caused her cancer.

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BY MR. ZELLERS:

Q. It's a combination of talc, whatever is in the talc --

A. It's whatever is in the talc.

DR. THOMPSON: Object to form.

BY MR. ZELLERS:

Q. -- that you believe, in Ms. Bondurant's case and in all of the cases that you have reviewed, caused or is a cause of ovarian cancer, correct?

DR. THOMPSON: Object to form.

A. So it's the talc use, which can have any or all of those substances in it, that causes it.

BY MR. ZELLERS:

Q. The talc may or may not have trace amounts of asbestos. It may have, you know, the amounts of heavy metals that are contained in the talc. But it's the talc itself that causes or is a cause of ovarian cancer, in your view, correct?

DR. THOMPSON: Object to form.

MS. GARBER: Object to the form.

A. It's the talc itself. And in

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some cases, like Ms. Gallardo that we talked about yesterday, we found that there was evidence of talc fibers and asbestos fibers in her cancer.
BY MR. ZELLERS:
Q. Well, do we know if those were asbestos fibers -- and let me withdraw, lay a little foundation here.
We established yesterday you're not a geologist, correct?
A. I'm not.
Q. You're not an expert in asbestos, correct?
DR. THOMPSON: Object to form.
A. I would say I'm an expert in the health effects, in gynecologic health of women and asbestos.
BY MR. ZELLERS:
Q. Are you aware that tremolite fibers, which I believe Dr. Godleski found, or particles -- we'd have to go back and look at the report to see -- can either be asbestiform or nonasbestiform?
DR. THOMPSON: Object to form.
A. So tremolite fibers are

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considered asbestos. That's in the IARC 2012.
BY MR. ZELLERS:
Q. So in your view, all tremolite is asbestos; that there are no nonasbestos forms of tremolite?
MS. GARBER: Object to the form.
A. As far as I'm aware, tremolite is considered asbestos.
BY MR. ZELLERS:
Q. All right. So you're making an assumption that anytime you hear or see the word "tremolite," that it's asbestos, correct?
A. I'd have to look at Dr. Godleski's report about the particles or fibers, but if I saw tremolite fibers, I would consider that asbestos.
Q. My question again is: In terms of the types of asbestos and whether there's minerals that can be both asbestos and nonasbestos but called the same name, you would defer to a geologist on that, correct?
DR. THOMPSON: Object to form.

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A. I would defer to IARC 2012 that defined tremolite as asbestos.
BY MR. ZELLERS:
Q. In terms of whether a particular mineral is or is not asbestos, would you defer to a geologist?
DR. THOMPSON: Object to form.
MS. GARBER: Object to the form.
BY MR. ZELLERS:
Q. Or a mineralogist?
DR. THOMPSON: Object to form.
A. I mean, I'm deferring to IARC for what is asbestos, and they list the types of asbestos and tremolite is one of those.
BY MR. ZELLERS:
Q. So you would not defer to a geologist or to a mineralogist as to whether a particular mineral is asbestos or not?
DR. THOMPSON: Object to form, asked and answered.
A. As to whether or not tremolite is asbestos? I have no reason to think that IARC 2012 is wrong when they say that tremolite is asbestos.

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BY MR. ZELLERS:
Q. To get where I think I need to get, you are not going to come in and talk to the jury specifically about the carcinogenicity of asbestos or the carcinogenicity of heavy metals.
What you're going to talk to the jury and give opinions on is the carcinogenicity of talcum powder, which may or may not have trace amounts of asbestos, which, you know, does have trace amounts of heavy metals -- you're going to talk about the carcinogenicity of the talc with whatever is in the talc; is that fair?
MS. GARBER: Object to the form.
DR. THOMPSON: Object to form.
A. So the -- in explaining the carcinogenicity of the talc, I would talk about all of the things in the talc that can be carcinogenic or are carcinogenic, and the ways that those things can cause cancer.
BY MR. ZELLERS:
Q. Did you do any investigation in Ms. Bondurant's case as to whether or not she

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had been exposed to asbestos over the course of her lifetime?
A. So I believe all that I had in Ms. Bondurant's case is her daughter's deposition to know what her life was like, and I don't remember -- recall the details of that, but I'm -- it's whatever is in there. I didn't know how else could I find out was she -- did she work in asbestos. I don't believe that she did or have any reason to think that she was exposed to asbestos.
Q. Do you have an opinion as to whether or not asbestos exposure can cause clear-cell ovarian cancer?
A. So asbestos is carcinogenic, again, referring back to IARC '12, and can cause ovarian cancer.
I don't know that -- and I'd have to look at the details again. I don't know that they looked specifically at the cell types in that. I know that they ruled out mesothelioma as the cancer in some of the cases and were able to say that it was epithelial ovarian cancer, but I don't remember the details about the subtypes.

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Q. Is it your opinion that Ms. Bondurant's clear-cell ovarian cancer was caused by heavy metals?
DR. THOMPSON: Object to form.
A. It's my opinion that her ovarian cancer was caused by her talc use.
BY MR. ZELLERS:
Q. You're not offering an opinion as it relates to Ms. Bondurant -- well, let me strike that.
You have no evidence one way or the other as to if there was asbestos contamination in any of the bottles of talcum powder used -- that Ms. Bondurant used; is that right?
DR. THOMPSON: Object to form.
A. I'm not aware that there was any of the bottles that she used that were available for analysis. What I know of from Dr. Rigler's report is that in the Johnson & Johnson baby powders that he analyzed, his lab analyzed, two-thirds of them had evidence of asbestos, and I think 54 out of 55 had talc fibers.
So if the bottles that she used

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were similar to most of the bottles that he tested from the '60s to 2000s, I would assume that one or both of those was in at least some of them.
BY MR. ZELLERS:
Q. As far as you know, we have no samples of any of the bottles of talc that Ms. Bondurant used, correct?
A. As far as I know, we don't. And I would not expect that we would.
Q. Do you have any opinions in this case that it was a particular heavy metal or a particular fragrance compound of baby powder that was the cause of Ms. Bondurant's ovarian cancer?
DR. THOMPSON: Object to form.
A. It's my opinion it's the talcum powder use.
BY MR. ZELLERS:
Q. Do you think the inflammatory mechanism for heavy metals and/or fragrances is the same as talc?
DR. THOMPSON: Object to form.
A. I think it could be the same or they could act in concert, if they're all in

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the same product.
BY MR. ZELLERS:
Q. Well, do you know whether or not the inflammatory mechanism for heavy metals and fragrances is the same as you believe it is for talc?
DR. THOMPSON: Object to form.
A. I think it could be the same or it could be slightly different.
BY MR. ZELLERS:
Q. Do you know the fragrance ingredients for cornstarch baby powder?
A. I don't.
Q. Do you know if the fragrance ingredients for cornstarch baby powder are the same as they are for talc-based baby powder?
A. I don't.
Q. Do you believe that the etiology for clear-cell carcinoma is the same as the etiology for high-grade serous carcinoma?
DR. THOMPSON: Object to form.
A. So we talked about this earlier, that the common genetic

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abnormalities that are seen in the different subtypes of epithelial ovarian cancer, high-grade serous, low-grade serous, clear-cell being some of those, the common genetic mutations are different. Some of them are different, anyway.

BY MR. ZELLERS:

Q. But did you make a determination about when it was that Ms. Bondurant's clear-cell carcinoma began to develop?

A. No. That's a question I get asked all the time and I don't have a good answer for how long -- the cancer from the time it starts until it grows. Cancers do tend to grow in a logarithmic manner, and so once it starts growing and becomes grossly visible, it seems like it's growing fast. But from the -- from when it starts until -- until it becomes a cancer, generally people say one to two years, but I'm not aware of good evidence to support that.

What I tell patients is once we know it's there, we don't sit on it and do nothing about it, unless there isn't anything

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we can do about it.

Q. I think I saw in your earlier testimony that you believe the latency period from ovarian cancer can be anywhere from 15 to 20 years; is that right?

A. Yes.

DR. THOMPSON: Object to form.

A. That's a different question, though. That's how long does an exposure that can be carcinogenic, how long does that take until the cancer is there?

I think that's a different question than you asked me before.

BY MR. ZELLERS:

Q. And that would be -- what you just described would be the latency --

A. No. What I described is once there's a cancer, how long has it been there until it's found? That's what I was describing.

Q. And you believe that would be the latency period?

A. No, the latency period is the time of the exposure until the cell becomes cancerous.

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Q. The latency period you believe is 15 to 20 years?

A. For ovarian cancer, and for most cancers. And a lot of that data comes from the atomic bombs that were dropped in Japan in World War II and the survivors and the time it took for them to get cancer.

Q. Do you believe that in any individual, in like Ms. Bondurant, for example, that you should discount the previous 10 years before her diagnosis as not contributing to the development of ovarian cancer?

DR. THOMPSON: Object to form.

A. Generally, I would not, because it's continued injuries that could continue to cause mutations.

In Ms. Bondurant specifically, she had her tubes tied in '87 and her cancer was diagnosed in 2018, so...

BY MR. ZELLERS:

Q. All right. So you would not consider any talcum powder use between 1987 and 2018, you know, as causing or contributing to her ovarian cancer, correct?

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DR. THOMPSON: Object to form.

A. So I believe that the important part of her use was prior to her tubes being tied.

BY MR. ZELLERS:

Q. Prior to 1987?

A. Yes.

Q. Okay. You were not one of Ms. Bondurant's treating physicians, correct?

A. No, I was not.

Q. You were not involved in any diagnosis or treatment of her ovarian cancer; is that right?

A. No, I was not.

Q. Ms. Bondurant passed away in October of 2020.

Did you ever have an opportunity to meet her?

A. I did not.

Q. Have you ever spoken with her husband?

A. No.

Q. Her children?

A. No.

Q. Did you ever make a request to

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the attorneys if you could meet with or speak with Ms. Bondurant's family?
A. No.
Q. Have you ever spoken with any of Ms. Bondurant's treating physicians about her case?
A. No.
Q. Page 30 of your amended report, and I think this will be on your materials list, these are the case-specific materials that you reviewed; is that right?
It's not a number, but it comes right after page 29.
A. Yes.
Q. So there are a lot of records here; is that right?
A. Yes.
Q. Did you look at each of the medical records?
A. I did.
Q. I assume that the medical records and that all of these materials were provided to you by counsel; is that right?
A. Yes.
MR. ZELLERS: I have no more

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questions on Bondurant. We've got two other cases. You want to take a lunch break and then come back and do those? They will be shorter --
Let's go off the record.
(Recess taken, 11:43 a.m. to 1:02 p.m. CDT)
BY MR. ZELLERS:
Q. Dr. Wolf, are you ready to continue?
A. I am.
Q. The third case that you have issued case-specific opinions in is Ms. Judkins' case; is that right?
A. That's correct.
Q. Your case-specific -- well, withdraw that.
You have in front of you your case-specific report in the Judkins case that we've marked as Deposition Exhibit 8; is that right?
A. Yes.
Q. The first 21 pages of this report is the same as the general amended report that we have discussed earlier in this

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deposition; is that right?
A. Yes.
Q. Are the case-specific opinions that you expect to provide at any trial or hearing in the Judkins matter set forth on pages 21 to 23 of the report, Deposition Exhibit 8?
A. Yes.
Q. It's your opinion that talcum powder was a cause of Ms. Judkins' cancer; is that right?
A. That's correct.
Q. If Ms. Judkins had never used talcum powder, she never would have gotten ovarian cancer; is that what you're saying?
DR. THOMPSON: Object to form.
A. What I'm saying is that Ms. Judkins used talcum powder and she got ovarian cancer, and that is the only risk factor that I could find in her history. And she used it daily for 46 years.
BY MR. ZELLERS:
Q. You're not saying that if she had never used talc, she never would have gotten ovarian cancer, are you?

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DR. THOMPSON: Object to form.
A. What I'm saying is some women who get ovarian cancer have never used talc, and in Ms. Judkins' case, she got ovarian cancer and she used talc.
BY MR. ZELLERS:
Q. Ms. Judkins was 60 years old at her diagnosis?
A. Yes.
Q. Could Ms. Judkins' age -- well, let me withdraw that.
Was Ms. Judkins' age a risk factor for ovarian cancer?
A. Advancing age can always be a risk factor. She is slightly younger than the average age, so I wouldn't separate it out in her case as a risk factor.
I think I talked yesterday about an example of ninety -- I've had women in their nineties, and then I would definitely call age a risk factor.
Q. Age generally does increase a woman's risk for mutations, correct?
A. Age increases anyone's risk for mutations.

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Q. It's your opinion that a 60-year old woman, that that is not old enough to be considered a risk factor for ovarian cancer?

DR. THOMPSON: Object to form.

A. I would say that age 60, likely anyone who's lived to 60 years has had some mutations. In ovarian cancer specifically, 60 I don't consider a risk factor, that age of 60 as a risk factor.

BY MR. ZELLERS:

Q. All right. Ms. Judkins at 60 years old may have had mutations related to age, but in your view, the mutations, or at least some of the mutations that resulted in her ovarian cancer, were from her talcum powder use?

A. Some of the injuries to her cells that led to cancer, yes.

Q. Did Ms. Judkins have a family history of cancer?

And I can show you the plaintiff profile form, if need be.

A. Yes. She had a maternal uncle with kidney cancer and a paternal great aunt

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with breast cancer.

Q. That family history would be a risk factor for the development of ovarian cancer, correct?

DR. THOMPSON: Object to form.

A. No. No. One -- I guess a paternal great aunt would. A third-degree relative with breast cancer would not. And the kidney cancer on her mother's side would not be related to her -- a risk of ovarian cancer.

BY MR. ZELLERS:

Q. Could Ms. Judkins' family history of cancer have played a role in her development of ovarian cancer?

DR. THOMPSON: Object to form.

A. It's unlikely.

BY MR. ZELLERS:

Q. You believe that the route of exposure in Ms. Judkins' case was through migration?

A. Yes.

Q. Do you believe that Ms. Judkins' ovarian cancer was caused from talcum powder traveling to her ovaries

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through inhalation?

A. I can't disprove that. She applied it to her genital area. I think that would be the most risk for her exposure.

Q. You do not intend to go in -- strike that.

You do not intend to testify at trial that her route of exposure was inhalation. Your testimony will be that her most likely route of exposure was through the genital tract. Correct?

DR. THOMPSON: Object to form.

A. I believe her most likely route of exposure was through her genital tract.

BY MR. ZELLERS:

Q. Just a general question. You can look at page 12 or 13 of your report here, but one of the articles that you're now citing is the Psooy article.

Are you familiar with that, P-S-O-O-Y?

A. Yes.

Q. And in that article, that article demonstrated that bath water can become entrapped in the vagina in females

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with normal anatomy.

Is that what you cite it for?

A. Yes.

Q. Would you agree it would be a rare occurrence for a woman to have water trapped in her vagina?

DR. THOMPSON: Object to form.

A. It depends on how long it would be in her vagina, and I don't have an answer to that.

BY MR. ZELLERS:

Q. Well, if there's an open system -- and you believe there is an open system, correct?

A. Yes.

Q. Why would water get trapped in the vagina? Why would it not make its way further up the reproductive tract?

DR. THOMPSON: Object to form.

A. My suspicion is that it doesn't remain entrapped very long and it falls out the vagina.

BY MR. ZELLERS:

Q. I understand falling out, but if you're correct and if there is an open

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system, why would it not make its way further up the reproductive tract?
DR. THOMPSON: Object to form.
A. I'm going to say I'm not sure that anyone has proven it doesn't. It's -- water would be a challenging thing to study since the body has water all the time.
BY MR. ZELLERS:
Q. I also have one question, going back to Ms. Garber's client, Ms. Gallardo.
Cramer 2016 we talked about yesterday. And if you need me to pull it back out, I can. But that showed no significant association for ovarian endometrioid cancer in postmenopausal women, correct?
A. I'd have to look at that part of the paper again. I don't remember that specific.
Does it have an exhibit number? Maybe I have it here.
(Technical recess requested by the stenographer.)
(Recess taken, 1:12 p.m. to 1:14 p.m. CDT)

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BY MR. ZELLERS:
Q. Dr. Wolf, when we went off the record, I'd asked the question as to whether you agree that the Cramer 2016 article showed no significant association for ovarian endometrioid cancer in postmenopausal women.
A. So in that paper, Table 4 I'm looking at, he separated out the different cell types. There were 30 premenopausal women with endometrioid-type -- cell-type cancer and there were 37 postmenopausal women. Both of them had a positive association; 1.34 in premenopausal, 1.36 in postmenopausal. The confidence intervals crossed 1 in both of them.
So there was a positive association. In neither pre- or postmenopausal was it statistically significant, but the numbers for each of those were small when you separated them out.
Q. Thank you.
I have asked previously whether you attempted to determine -- and let me just ask a new question with respect to Ms. Judkins.

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Did you attempt to determine how much talc Ms. Judkins was exposed to over the time period she claims to have used talc from approximately 1970 to 2015?
A. So that was a 46-year period of time. And so if she was using it daily, which is what she reported in her deposition, that would be thousands of times. And the frequency and the duration of her use causing her cancer is what's supported by the epidemiologic literature, looking at duration and frequency of use.
Q. And as we've talked in the other cases, there may be some level of exposure that you, you know, would question or say did not support talcum powder use as a cause or a contributing cause of ovarian cancer, but in Ms. Judkins' case, you believe that she had sufficient exposure, correct?
DR. THOMPSON: Object to form.
A. So there are times in reviewing the whole individual case where I would not think that talcum powder played a role. Again, that would be if there was no way for the talcum powder to get there, the woman had

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had a hysterectomy and/or her tubes tied, or she maybe used it once.
But Ms. Judkins used it for many years daily, thousands of times, which is supported by the epidemiologic literature.
BY MR. ZELLERS:
Q. One of the assumptions you've made in this case is that Ms. Judkins did use talcum powder on her perineum daily for 45 years, correct?
A. That is what is reported in her deposition.
Q. Do you have any more specifics of how it was that Ms. Judkins claimed to have applied talcum powder to her body?
A. I can't recall whether she put it in her underwear or on a pad or directly on.
She says in her deposition on page 18, what was -- she was asked: What was your routine in terms of during the day when you would use Johnson's Baby Powder?
I used it every time I got out of the shower.
And then I believe she was

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physically active, and so she was doing some sports and she showered twice a day, she used it twice a day.
Q. As in the other cases, your methodology is to believe the testimony of the plaintiffs with respect to their talcum powder use, correct?
A. Yes. Again, she was deposed. She was under oath when she gave her deposition, as was, I think, her husband gave a deposition also. So yes.
Q. Did Ms. Judkins have a personal history of cancer?
A. She did. She had a basal cell skin cancer on her forearm.
Q. There's no mention of her talc use in the medical records; is that right?
A. No, not to my knowledge.
Q. And you did not see anything in the medical records that would evidence a discussion that Ms. Judkins had with her treating physicians about talcum powder use; is that right?
A. I did not see anything.
Q. Did you do any type of

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investigation in terms of whether Ms. Judkins had any exposure or potential exposure to asbestos?
DR. THOMPSON: Object to form.
A. Again, there was a series of questions in her deposition about what kind of work she did, where did she live, was there construction in her home, was there construction around her house. And there was nothing that indicated to me that she ever had any occupational or long-term exposure to asbestos.
BY MR. ZELLERS:
Q. I saw some mention in her deposition about Ms. Judkins and her husband, they purchased a house, they were told the house has an issue with asbestos. They may have been in the house for a short period of time before the asbestos was removed.
Did you see that?
A. Yes.
Q. Would that -- or strike that.
Does that impact your opinion at all in this case?
A. No.

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Q. In Ms. Judkins' case, as in each of the cases we've discussed, there's the potential for unknown causes of ovarian cancer. But in your view, talcum powder use is a cause of her ovarian cancer, correct?
DR. THOMPSON: Object to form.
A. In my view, after review of all her medical records and her depositions and her forms, that talcum powder is a cause of her ovarian cancer -- her talcum powder use.
BY MR. ZELLERS:
Q. All of the questions that I've asked you in the past as to whether you have individual opinions about asbestos or heavy metals or fragrances that may be contained in the talc, your opinion in this case is not as to those specific ingredients, but it's to the ingredients as a whole, the talc, which, in your opinion, in this case caused Ms. Judkins' ovarian cancer, correct?
DR. THOMPSON: Object to form, misstates her testimony.
A. So it's the talc which contains or had been found to contain asbestos talc fibers, the heavy metals, nickel, chromium,

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cobalt that we've talked about, and some irritating fragrance ingredients.
BY MR. ZELLERS:
Q. Once again, we have no evidence in Ms. Judkins' case of any samples of the talcum powder she used that you're aware of; is that right?
A. I'm not aware that we have any of the samples of her baby powder that she used.
Q. You have not communicated or talked with Ms. Judkins; is that right?
A. I actually was on a phone call with Ms. Judkins one time.
Q. When was that?
A. About a year and a half ago. It was sometime deep in the pandemic, so...
Q. And for how long did the phone call last?
A. It was with attorneys. I don't remember how long the phone call was. Maybe 30, 40 minutes.
Q. And what was the purpose of the phone call?
DR. THOMPSON: And I think that

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is privileged as to any content of the conversation that she had with the attorneys and Ms. Judkins.
MR. ZELLERS: Well, if the doctor obtained any information from that call that she's relying on, I think that would be discoverable, so...
DR. THOMPSON: I disagree.
MS. GARBER: I think it's all privileged.
DR. THOMPSON: I think I'm going to instruct her not to answer the content of that discussion.
MS. GARBER: I think you can ask her what she learned from the discussion, but I don't think you can ask her what was discussed or what she gleaned from the conversation.
DR. THOMPSON: Well, isn't that the same thing?
MS. GARBER: I don't think so.
MR. ZELLERS: Well, I believe that it would be discoverable, anything that was communicated to her

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that she relies on in terms of giving her opinions, which I think Ms. Garber would be -- what you're suggesting, what did she learn from that, you know, that's relevant to her opinions.
DR. THOMPSON: Not from what she learned from the attorneys or their clients, and I'm going to instruct her not to answer that question.
MR. ZELLERS: Okay. So I disagree. I do think that it should be discoverable and is discoverable, any information she obtained from that phone call --
BY MR. ZELLERS:
Q. Which in your view lasted 30 or 40 minutes; is that right?
A. My recollection.
MR. ZELLERS: -- that relates to her opinions in this case. So --
DR. THOMPSON: I don't think it does. Just a minute, let me consult with her.
MR. ZELLERS: We'll go off the

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record.
(Recess taken, 1:24 p.m. to 1:27 p.m. CDT)
BY MR. ZELLERS:
Q. Dr. Wolf, when we broke, you were describing a phone conversation that you had with the lawyers for Ms. Judkins and with Ms. Judkins herself -- was it about a year and a half ago you thought --
A. Yes.
Q. -- lasted maybe 30 or 40 minutes?
Other than the lawyers and Ms. Judkins and yourself, was anyone else on the call?
A. Not to my recollection.
Q. What, if anything, did you learn in that call that you're relying on in terms of giving your opinions in this case?
DR. THOMPSON: And I'll object to -- I'll object to form, but allowing her, obviously, to answer the question.
A. Nothing.
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BY MR. ZELLERS:
Q. There were no facts communicated to you that you relied upon other than, you know, what you looked at in the records?
A. What I already had looked at.
DR. THOMPSON: Object to form.
BY MR. ZELLERS:
Q. Do you have or have you at any time had any physician-patient relationship with Ms. Judkins?
A. No.
Q. Other than that one occasion, have you ever spoken with Ms. Judkins?
A. No.
Q. Have you ever spoken with Ms. Judkins' husband?
A. No.
Q. Have you ever spoken with any of her treating physicians?
A. Not regarding her care.
Q. So in what context have you spoken with any of her treating physicians?
A. So her surgeon, Dr. Lloyd West, was a fellow of mine about 20 years ago, and

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I've probably seen him socially at meetings once or twice since then.
Q. You have never discussed Ms. Judkins' case or care with him; is that right?
A. That's correct.
Q. Is he aware that you're serving as an expert witness in this case?
A. I do not know.
Q. Is he aware, from any conversations you've had with him, that you're serving as an expert witness in this case?
A. No.
Q. You are -- strike that.
You have reviewed a report from Dr. Godleski relating to his particle findings in Ms. Judkins' case, correct?
A. Yes.
Q. Do I understand from your earlier testimony that even without Dr. Godleski's findings, your opinion would still be that Ms. Judkins' talcum powder use was a cause of her ovarian cancer?
A. Yes, for the reasons I talked

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about before, that I know he only gets a small portion of the tissue to evaluate.
Q. I'm going to mark Dr. Godleski's report in Ms. Judkins' case as Deposition Exhibit 48.
(Whereupon, Deposition Exhibit Wolf-48, 6/18/21 Godleski Expert Report re: Judkins, was marked for identification.)
BY MR. ZELLERS:
Q. In your report, you do rely on and reference Dr. Godleski's pathology report in forming your case-specific opinions; is that right?
A. Yes.
Q. And I see that on page 22, middle of the page.
A. I see that.
Q. Dr. Godleski looked at eight tissue blocks in Ms. Judkins' case; is that right?
A. Yes.
Q. Those blocks were from Ms. Judkins' right fallopian tube, right pelvic and paraaortic lymph nodes, cervix,

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left ovary and left fallopian tube; is that right?
And I'm looking at page 3 of Dr. Godleski's report, and specifically at the second paragraph, first sentence of the second paragraph.
A. Yes. Yes.
Q. Dr. Godleski found -- withdraw that.
You're not a surgical pathologist; is that right?
A. I'm not a surgical pathologist, but I routinely look at surgical pathology for my patients.
Q. All right. Dr. Godleski found 932 particles in the tissue blocks.
And I'm looking at page 4.
A. I see that.
Q. Only 17 of those 932 particles were what he reports as nonfibrous talc particles; is that right?
A. He reports 17 were talc particles, yes.
Q. He describes them, at least at the bottom of page 3, as nonfibrous talc

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particles?
A. Yes.
Q. And those were found in only three of the eight blocks he looked at; is that right?
A. Yes.
DR. THOMPSON: Object to form.
BY MR. ZELLERS:
Q. 483 of the 932 particles had a calcium composition according to Dr. Godleski; is that right?
A. That's right, and that would not be uncommon in ovarian cancer, to find calcium.
Q. And that has nothing to do with whether talc is involved or not, correct?
A. It's a finding that's common in ovarian cancer.
Q. Do you know what kind of particles have a calcium composition?
DR. THOMPSON: Object to form.
A. Well, many things have a calcium composition. Bone does. Teeth do. Ovarian cancer makes calcium deposits.
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BY MR. ZELLERS:
Q. Dr. Godleski also says in his report that 272 particles had a variety of constituents indicative of exogenous material, including 26 nontalc magnesium silicate particles, sometimes with other cations, and 246 other exogenous particles, which included various combinations of metals and/or silicon and/or nonmetallic elements, page 4, is that right?
A. I see that, yes.
Q. You don't know what differentiates the 272 exogenous particles from the other 246 exogenous particles to which Dr. Godleski is referring, do you?
DR. THOMPSON: Object to form.
A. Well, he describes what the 272 are, magnesium silicate particles with other cations, and the 246 are other exogenous particles, including metals, silicon and nonmetallic elements. So he's separated them based on what they were.
BY MR. ZELLERS:
Q. What are exogenous particles?
A. Something that comes in from

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the outside.
Q. Okay. In doing your and arriving at your case-specific opinions, did you do any investigation into trying to figure out what these other particles actually were?
DR. THOMPSON: Object to form.
A. Well, he states what a lot of them were. Magnesium silicate.
I don't know what the metals were. The metals could be heavy metals that had been found in baby powder.
Silicon, I know what that is.
The other nonmetallic elements, I did not talk to him or ask him what those were.
BY MR. ZELLERS:
Q. It does not appear that Dr. Godleski, at least in the tissue samples that he examined, found either asbestos or what you described earlier as talc fibers, correct?
A. No. What he found were talc particles.
Q. Okay. Could the particles or

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the calcium composition have played a role in Ms. Judkins' development of ovarian cancer?
DR. THOMPSON: Object to form.
A. No, those were felt to be endogenous, meaning they came from within her body, not from the outside. And as I mentioned, it's quite a common thing to see calcium deposits in ovarian cancer.
BY MR. ZELLERS:
Q. Regardless of the cause, correct?
A. Yes.
Q. In any of the Dr. Godleski records that you have referenced in your report, did Dr. Godleski find evidence of chronic inflammation around these talc particles?
A. Not to my recollection, but I -- that wouldn't be something that would be necessarily visible.
Q. If you're seeing talc particles in human tissue, would you expect that they would be associated with some type of inflammatory response?
A. Yes, but not necessarily a

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visible inflammatory response. I think you're saying would there be white blood cells, would there be macrophages? There were. There sometimes are and you can see those, but because they're not there doesn't mean there isn't an inflammatory response.
Things like cytokines and growth factors wouldn't show up on pathology.
Q. Would there be evidence on a pathology slide of an inflammatory response?
DR. THOMPSON: Objection, asked and answered.
A. I think I just answered that question.
BY MR. ZELLERS:
Q. There may be or may not be, is that --
A. You may see white blood cells, but with chronic inflammation, you don't need to see it. The things that I mentioned, growth factors and cytokines, you don't see on a pathology slide.
Q. And for me to try to understand your answer, you may see some evidence, but you may not, for the reasons you've stated,

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correct?
A. You may see some white blood cells, lymphocytes, macrophages, you may not, because chronic inflammation isn't always something that's visible on a pathology specimen.
Q. Ms. Judkins was diagnosed with her cancer in December of 2016; is that right?
A. Yes.
Q. She completed her chemotherapy in January of 2018; is that right?
A. She completed in June of 2017.
Q. All right. So June of 2017, she completed her chemotherapy.
Are you aware of any evidence that Ms. Judkins has had a reoccurrence of her ovarian cancer?
A. I am not. When I wrote this report anyway, the last records were from July of 2020 when she was found to have no evidence of disease.
Q. Have you seen any of her treatment records in 2021 that also, at least my understanding is, do not indicate a

Page 603

recurrence?
A. Yeah, I don't -- my recollection is I haven't seen anything more frequently than that.
Q. All right. Your last records -- and it would be reflected in your report -- are --
A. Was from July 2020.
Q. Okay. From the records you've seen, there's no evidence that Ms. Judkins' ovarian cancer metastasized; is that right?
DR. THOMPSON: Object to form.
A. Her ovarian cancer has not recurred. At the time of diagnosis, it was already felt to have been metastasized to her colon. That's why she was a stage 2, the outside of her colon. And at the time of the last record that I saw, she has had no recurrence.
BY MR. ZELLERS:
Q. It appears that she's doing well, from at least the records and materials that you've seen and you've reviewed?
A. Thus far, she's free of disease.

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Q. Do you agree that her cancer was sporadic?
DR. THOMPSON: Object to form.
A. No. Sporadic means that you don't know any cause of the cancer.
BY MR. ZELLERS:
Q. As we talked earlier, generally most ovarian cancers are sporadic, but in this case, because of her talcum powder use, you do believe that talcum powder use was a cause or a contributing cause to her ovarian cancer, correct?
DR. THOMPSON: Object to form.
A. Talcum powder was the cause of her cancer. And I'm just going to clarify that generally in the literature, sporadic versus genetic implies inherited versus noninherited; but sporadic really just means you don't know the cause.
BY MR. ZELLERS:
Q. And I think we've covered this, but in the majority of cases of ovarian cancer, the physicians do not know the cause, correct?
A. In the majority of patients

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with ovarian cancer, there's not an inherited mutation that is the cause.
Q. So do you agree with me -- I mean, is that a yes with an explanation?
DR. THOMPSON: Object to form.
A. I don't agree with you. I agree with the statement that I said, that in the majority of cases, there is not an inherited genetic mutation.
BY MR. ZELLERS:
Q. And if there is not an inherited genetic mutation, those cases, other than perhaps a small number of talc cases, would be sporadic, correct?
DR. THOMPSON: Object to form.
A. So in the cases that are not inherited, those are -- those in the literature are considered sporadic. In the sporadic, meaning the noninherited, sometimes you can identify a cause. Sometimes you can identify things that -- multiple things that may be -- that can be a cause of their cancer.
BY MR. ZELLERS:
Q. Do most women with epithelial

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ovarian cancer fit the profile of Ms. Judkins in terms of age at diagnosis, high-grade serous? And is she in the group of patients that you most commonly see that are diagnosed with ovarian cancer?

A. So there are some things about her case that are common and some that are a little outside of common. She has -- as we talked about, she's slightly younger, but not far off the average age. The high-grade serous is common.

The fact that she was found at stage 2B is not that common. 75% of women are found at stage 3 or 4.

The fact that her treatment included intraperitoneal chemotherapy is not common. There aren't very many women who are able to tolerate that therapy, and there aren't that many people who are good candidates for it because of their disease.

Q. Given when her cancer was diagnosed, the stage, the treatment that she was able to receive, her course after the treatment, do you believe that Ms. Judkins has a good prognosis?

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DR. THOMPSON: Object to form.

A. I believe that she's done well so far; that she still has a chance that her cancer will come back. She had the best opportunity to do as well as she could. She had relatively early stage, 2B, instead of 3 or 4. She had an aggressive surgery where all the visible cancer was removed, and she had the most aggressive therapy that we had at the time in 2017. I would not consider her cured.

BY MR. ZELLERS:

Q. While there's always a risk of recurrence, it sounds that your opinion is she has a good prognosis, but you would not say that she's cured, and there's always the possibility of a reoccurrence; is that fair?

DR. THOMPSON: Object to form, misstates the testimony.

A. I think that she's had everything done that she possibly could to have the best prognosis that she possibly could. I'm still concerned that her cancer will recur, and if her cancer recurs, she will highly likely die from it.

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BY MR. ZELLERS:

Q. That's a risk that any woman with ovarian cancer has, correct?

DR. THOMPSON: Object to form.

A. That their cancer will recur?

BY MR. ZELLERS:

Q. May recur.

A. That their cancer may recur, yes.

Q. Yes. There's nothing unusual about Ms. Judkins' case that would cause you to think it's more likely that her cancer would recur; is that right?

DR. THOMPSON: Object to form.

A. I don't think I said that.

BY MR. ZELLERS:

Q. If anything, there would be a risk that it may recur, less of a risk just because of the relatively early stage it was diagnosed and the treatment that she's undergone?

DR. THOMPSON: Object to form.

A. Well, I hope. I hope.

BY MR. ZELLERS:

Q. All right. I want to ask you

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some questions about the Swann case now.

A. Okay.

Q. Do we want to take a break or just go right in?

DR. THOMPSON: Do you anticipate Swann taking about the same amount of time? Shall we take a break and then finish Swann?

MR. ZELLERS: No, that's -- it's up to you.

DR. THOMPSON: I'd rather -- I think you'd rather not take a break in the middle of Swann, right?

MR. ZELLERS: Yeah, I'd rather not take a break in the middle of Swann.

DR. THOMPSON: So let's take five minutes now.

(Recess taken, 1:47 p.m. to 1:56 p.m. CDT)

BY MR. ZELLERS:

Q. Dr. Wolf, you have also prepared a case-specific report in the Swann case; is that right?

A. Yes.

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Q. As with your other case-specific reports, the first 21 pages of your report on Ms. Swann is the same as the general amended report in the MDL that we have discussed earlier in this deposition; is that right?
A. That's correct.
Q. Are all of the case-specific opinions that you anticipate testifying to at any trial or hearing in the Swann matter set forth in your case-specific report that we have marked as Exhibit 9 to this deposition?
A. Yes.
Q. It's your opinion that talcum powder was a cause of Ms. Swann's ovarian cancer, correct?
A. Yes.
Q. If she had never used talc, she never would have gotten ovarian cancer; is that your opinion?
DR. THOMPSON: Object to form.
MS. GARBER: Object to the form.
A. So my opinion is that her talc use is a cause of her cancer. There are

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women who get ovarian cancer who have not used talc, do not have an inherited mutation, do not have any obvious causative risk factor, but she does, and she used talcum powder for 40 years according to her doctor's deposition.
BY MR. ZELLERS:
Q. Even if -- well, strike that.
If Ms. Swann had never used talc, she still may have developed ovarian cancer, correct?
MS. GARBER: Object to the form.
A. Ms. Swann did use talc.
BY MR. ZELLERS:
Q. I understand.
A. So I'm --
Q. I'm asking you hypothetically, had she not used talc, she still may have developed ovarian cancer, correct?
MS. GARBER: Object to the form.
A. Ms. Swann's chances of developing ovarian cancer if she had not used talc I believe would be quite low given her

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lack of risk factors, if she had not used talc.
BY MR. ZELLERS:
Q. It is possible that had she not used talc, she still would have developed ovarian cancer. That's a possibility, correct?
MS. GARBER: Object to the form.
A. Anything is possible.
BY MR. ZELLERS:
Q. And if I ask you that question with Ms. Bondurant or Ms. Gallardo or Ms. Judkins, it's the same response. Even if they had not used talc, it's possible that they would have developed ovarian cancer, correct?
MS. GARBER: Object to the form.
A. With Ms. Swann and all the other patients that I've testified today, I think the chances of them getting ovarian cancer had they not used talc is highly unlikely.
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BY MR. ZELLERS:
Q. How old was Ms. Swann when she was diagnosed with ovarian cancer?
A. 62.
Q. Could Ms. Swann's age have caused her ovarian cancer?
A. So she's right at the average age. So if we look at age being a risk factor, think about 62-63 being sort of the 1, if we were looking at a relative risk, and someone under that age it would be less than 1, and someone over that age it would be greater than 1. So it's sort of a neutral piece of information in her case.
Q. But you agree that her age would increase her risk for more mutations, correct?
A. The longer anyone lives, they can get more mutations anywhere on their body.
Q. Do you agree that Ms. Swann's family history of cancer played a role in her development of ovarian cancer?
A. Ms. Swann's family history was a little confusing to me because it was quite

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inconsistent in her records. My recollection is that she had a paternal grandmother who had some type of cancer, not clear what type, and then Dr. Miriani, and I don't remember what -- which doctor Dr. Miriani was for Ms. Swann -- describes a family history of ovarian cancer, but doesn't give details.

So I'm not sure what the family history was in her case.

Q. You set forth in your report on page 21 that Dr. Miriani describes a family history of ovarian cancer, correct?

A. I just said that.

Q. So that's a yes; is that right?

DR. THOMPSON: Object to form.

A. Yes, a history without details of who had ovarian cancer.

BY MR. ZELLERS:

Q. Are you aware that Dr. Miriani and Dr. Elbendary records indicate that Ms. Swann had a grandmother with ovarian cancer?

A. My recollection is I didn't -- couldn't figure out who had ovarian cancer, but there was a paternal grandmother who had

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some type of cancer that somebody reported.

Q. Let's mark as Deposition Exhibit 49 a page from Ms. Swann's medical records.

(Whereupon, Deposition Exhibit Wolf-49, Medical Record(s), SWANNV_MBMC_0034, was marked for identification.)

BY MR. ZELLERS:

Q. This is a record from Missouri Baptist Medical Center; is that right?

A. Yes.

Q. And under Family History, it states: Grandmother had ovarian cancer.

A. I see that.

Q. Is that right?

A. Yes.

Q. Does that help clarify who it was in the family that had ovarian cancer?

DR. THOMPSON: Object to form.

A. This is one place that it says that, but I'm telling you that other places it was not consistent. So I still feel like somebody had ovarian cancer. This record says it was a grandmother. Other places it

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wasn't clear who had it. And there was another place that said it was a paternal grandmother who's had some type of cancer.

So I'm not entirely clear who had the cancer.

BY MR. ZELLERS:

Q. What records are you aware of that contradict that Ms. Swann's grandmother had ovarian cancer?

DR. THOMPSON: Object to form.

A. Well --

BY MR. ZELLERS:

Q. Or Ms. --

A. I don't have all of her records.

MR. ZELLERS: Did I misstate my question?

BY MR. ZELLERS:

Q. Let me ask my question again in case I misspoke.

Can you identify any records of Ms. Swann that contradict that her grandmother had ovarian cancer as appears to be the case from the history provided on Deposition Exhibit 49?

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DR. THOMPSON: Objection, and she's already described some of the contradictory --

MR. ZELLERS: Well, I -- with all due respect --

DR. THOMPSON: Well, you asked me, did you not?

BY MR. ZELLERS:

Q. All I'm trying to find out, because I don't think I have an answer, are there any specific records that you can direct me to, Dr. Wolf, that contradict that Ms. Swann's grandmother had ovarian cancer?

DR. THOMPSON: Object to form.

A. So the records -- I don't have all of her records in front of me, but when I reviewed her records, it was unclear to me what her family history was.

As her family history reported, and I believe this was -- I'm not sure, I don't say who it was from -- but a paternal grandmother had some type of cancer, and that may have been from her daughter's deposition.

And Dr. Miriani's records describe somebody in the family as having

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ovarian cancer, but I don't know who that is.
BY MR. ZELLERS:
Q. All right. It's important to pin down the history to determine whether or not the family history is a risk factor in a given patient's case, correct?
A. And --
Q. Is that correct?
A. It is. And I found it difficult to pin down her family history in reviewing her records.
Q. All right. Ms. Swann reported in her deposition that she had a paternal aunt with breast cancer, correct?
A. Paternal grandmother.
MR. ZELLERS: Would you mark this as Deposition Exhibit 50?
(Whereupon, Deposition Exhibit Wolf-50, Excerpt from Lydia Huston Deposition, was marked for identification.)
BY MR. ZELLERS:
Q. I've handed you what we've marked as Deposition Exhibit 50. It is some excerpts from the deposition of Lydia Huston.

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At the very bottom of the page, so page 13 -- the first page of the exhibit --
A. Yeah, I see page 13.
Q. -- but page 13 in the box, the very last line, line 25.
QUESTION: Okay. Did your father have siblings? Your biological father?
Yes.
QUESTION: Do you know their names?
I do.
And then she gives a number of names.
Then if we go down to page 15, question starting at line 9: Okay. Are Mae, Minnie, Flora, Virgie, Annise and Annette still living?
ANSWER: No. Mae Francis is deceased and Annette is deceased.
QUESTION: Do you know what their causes of death were?
ANSWER: Breast cancer for both of them.

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A. So Lydia Houston is her daughter, is Ms. Swann's daughter, correct?
Q. Yes.
A. And what's your question?
Q. My question is: Does this help refresh your recollection or provide information that Ms. Swann had a paternal Aunt with breast cancer?
A. This makes it seem like it was -- so this is her -- this is her daughter talking. My grandfather died...
(Sotto voce document review by the witness.)
A. So those are from her father's side, not Ms. Swann's side, if I'm reading this correctly.
This is Ms. Swann's daughter, Ms. Huston, and the question is about her father and his family, and these are the biological father's parents and his children.
So these would be on Ms. Swann's father's side, not Ms. Swann's side. Yes?
BY MR. ZELLERS:
Q. This is Ms. Huston.

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A. Ms. Swann's daughter?
Q. Yes.
A. And she's being asked about her biological father and her biological father's parents and their family history.
So this is all family history that has no blood relationship to Ms. Swann.
Q. I have another deposition excerpt here, so let me -- I will clear that up. And then if I have some additional questions before we stop here, I will ask them of you.
A. Okay.
Q. Did you see any notation in the records that Ms. Swann's mother died at a young age?
A. I don't recall that. I don't know if there's something more in this about her mother, her maternal grandmother.
MR. ZELLERS: Let's take a break if we can. I need five minutes and then we'll continue.
DR. THOMPSON: Okay. Sure.
(Recess taken, 2:10 p.m. to 2:21 p.m. CDT)

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BY MR. ZELLERS:
Q. Take a look at the deposition, and on block 14 -- or page 14 --
A. Uh-huh.
Q. -- Ms. Huston is asked about the names of her mother's parents; is that right?
A. Yes.
Q. And she gives the name of her mother's father and her mother's -- and her grandmother or Ms. Swann's mother. They are both deceased.
She's asked what the cause of death for Ms. Swann's parents was and she states that Ms. Swann's mother died of an accidental gunshot wound in 1957; is that right?
A. Yes.
Q. One factor when you're looking at family history is whether or not a parent, in this case, a mother, develops cancer, right? That would be one thing you'd look at in a family history?
A. Yes.
Q. And here, because Ms. Swann's

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mother died at a relatively young age, you just don't know whether she would have developed ovarian cancer, breast cancer or any other form of cancer, correct?
DR. THOMPSON: Object to form.
A. So I'm not sure how old she was when she died, although Ms. Swann was born in '49, so she was -- I don't know how old she was then.
BY MR. ZELLERS:
Q. Ms. Swann was born in '49 and her mother died in '57?
A. '57.
Q. Ms. Swann's mother would have died when she was about eight years old; is that right?
A. When Ms. Swann was eight years old.
Q. When Ms. Swann was eight years old.
A. What we don't know is how old was her mother when she had her.
Q. My question to you just generally is: One thing that you look at in evaluating a case and evaluating whether or

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not a family history is a risk factor for ovarian cancer is whether the patient's mother developed ovarian cancer, breast cancer or any other form of cancer, correct?
A. That's correct.
Q. Okay.
A. And to the time of her mother's death, she had not developed any cancers.
Q. And here we just don't have any information beyond, obviously --
A. Her death.
Q. -- the time that she passed away?
A. That's correct.
Q. Ms. Swann did not undergo any genetic testing; is that right?
A. So I do -- I have not seen a report. According to her daughter's deposition, she had a negative BRCA test based on a home saliva test.
Q. And what does that mean?
A. That she had a testing done on her saliva.
Q. And where did you obtain that information?

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A. The daughter's deposition.
Q. Do you have a reference at all?
A. I don't have one. No, I don't have the whole deposition in front of me. I don't remember where it was.
Q. Is a saliva test the way that a BRCA test is generally done?
A. Sometimes.
Q. Is it accurate, that type of test?
A. It can be, yeah.
Q. Is it -- strike that.
What's the typical way that a BRCA genetic test is done?
A. Usually a blood test, but I've had some patients who have had saliva tests.
Q. Do you know whether or not a BRCA saliva test is less accurate than a BRCA blood test?
A. Not that I'm aware. I don't know that much about -- first of all, I don't know what saliva test she had, so I can't give you any more information about her test than is in there, in this report.
I know that more recently more

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people are getting tests done by saliva than blood as the genetic testing has become more sophisticated and able to look at mutations in saliva as well as blood.

Q. All right. You have not seen any test result; is that right?

A. I have not.

Q. What you saw was a reference in Ms. Huston's deposition that her mother had a BRCA saliva test and that it was negative?

A. That's correct.

Q. Do you know when she had that test?

A. No.

Q. Do you agree that Ms. Swann could have had an inherited germline mutation given her family history of ovarian cancer and breast cancer?

MS. GARBER: Object to the form.

DR. THOMPSON: Object to form.

A. So given that the -- there's one reference that her paternal grandmother had ovarian cancer. That is the only family member I know for sure had any type of cancer

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that would be related to a genetic mutation. It's hard for me to put much weight on that as a cause for a family history.

That in itself would not make me raise issues that I would consider a family history of -- suggesting a genetic mutation, inherited genetic mutation.

BY MR. ZELLERS:

Q. Is family history a risk factor for Ms. Swann?

MS. GARBER: Object to the form.

A. Family history of a first-degree relative of ovarian cancer or two or more family members with breast cancer or premenopausal -- one with premenopausal cancer would be, but a paternal grandmother would not be a first-degree relative.

BY MR. ZELLERS:

Q. So because it's not a first-degree relative, you do not believe that, in Ms. Swann's case, family history was either a risk factor for her ovarian cancer or a cause of her ovarian cancer, correct?

A. I have no evidence to support

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that family history was a cause of her ovarian cancer or that her family history put her at increased risk.

Q. Because the information we have from the record we looked at is that Ms. Swann had a grandmother with ovarian cancer, that's not enough for you to believe that it would be likely that Ms. Swann could have an inherited germline mutation, correct?

A. That one family history I do not believe puts her at higher risk for having a germline mutation.

Q. Did you make any request for the BRCA test or some documentation or some verification of that?

A. I've asked the attorneys several times if there were any more records, if there's anything else that we could get, and I have not received anything else.

Q. Much like in one of the earlier cases where you would want to see a surgical report verifying endometriosis for you to rely upon there being a negative BRCA test, you'd want to see the test results or the report and have a better understanding of how

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it was done?

DR. THOMPSON: Object to form.

A. In this case, what I have is her daughter under oath stating that she had a record that -- I think there was a BRCA test. To me, those two things are different. I have no reason to suspect that her daughter made this up.

BY MR. ZELLERS:

Q. Well, back in the case that we talked about earlier in your deposition where the patient gave a history of having endometriosis diagnosed, you'd have no suggestion or indication that the patient in that case was making that up, would you?

DR. THOMPSON: Object to form.

MS. GARBER: Object to the form.

A. I never suggested the patient was making it up. I'm saying there was no evidence in her history that she ever had a diagnosis of endometriosis, which is made via surgical -- surgical -- looking surgically.

BY MR. ZELLERS:

Q. Well, there was evidence in her

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case and in her history that she gave -- we saw that in multiple records -- that she told physicians that she had had a diagnosis of endometriosis, correct?

DR. THOMPSON: Object to form.

MS. GARBER: Object to the form.

A. To have a confirmed diagnosis of endometriosis, it has to be surgically confirmed, and she had no -- nothing in her history where she had surgery to confirm that she had endometriosis.

BY MR. ZELLERS:

Q. Well, similarly, in Ms. Swann's case, to have, you know, evidence of there being a negative BRCA test -- in Ms. Swann's case, in order for there to be evidence of a negative BRCA test, you'd need to see the test, right?

DR. THOMPSON: Object to form.

A. Those are two different things. You can't have a diagnosis of endometriosis, a confirmed diagnosis, without having a surgical confirmation that there is endometriosis.

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If someone tells me that her mother had BRCA testing and it was negative, I don't need surgical confirmation for that.

BY MR. ZELLERS:

Q. Do we know if the BRCA testing was BRCA1, BRCA2?

A. The information that I have is what I put in my report, that she had a BRCA-based home saliva test.

Q. But we don't know when, correct, and we don't know who has done that? You've requested the records, but at least as of now, we don't have the records?

A. The information I have is what I put in my report.

Q. Do you believe that the route of talcum powder exposure in Ms. Swann's case was through migration?

A. I do.

Q. Did you make an attempt to determine how much talc Ms. Swann was exposed to over the time period that she claims to have used talc?

DR. THOMPSON: Object to form.

A. So the use that her daughter

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reported in the deposition was from age 20 to 60, so 40 years, daily or sometimes twice a day. So 40 years, 12,000 times.

And the duration and frequency of her use is consistent with the support found in the epidemiologic studies that that duration and frequency of use of powder increases and can cause ovarian cancer.

BY MR. ZELLERS:

Q. Similar to the other cases we've talked about, there was enough exposure in Ms. Swann's case for you to conclude that talcum powder was a cause of ovarian cancer, correct?

A. Yes.

Q. You did not attempt to quantify the exact amount and that would be virtually impossible for anybody to do, correct?

DR. THOMPSON: Object to form.

A. I -- I quantified the presumed number of times she used it. The amount she used in each shake, I don't know, but her history and the usage that she gives is supported in the epidemiologic literature as a risk factor for ovarian cancer development.

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BY MR. ZELLERS:

Q. In forming your opinion on Ms. Swann, you relied on the testimony of her daughter that she used it daily, in her genital area and underwear two times a day; is that right?

A. At least daily, and sometimes twice a day.

Q. You don't have any more specifics of how it was that Ms. Swann applied or used talcum powder to her body other than the testimony of her daughter; is that right?

A. Yes.

Q. Ms. Swann had a tubal ligation in 1985, correct?

A. Yes. Yes.

Q. That would reduce, at least in your opinion, Ms. Swann's talc exposure and thereby reduce her risk of ovarian cancer, correct?

A. It would still give her 15 years of use, which would be adequate in duration and frequency.

Q. Her only exposure to talc use

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that you believe would be relevant in terms of being a cause of ovarian cancer would be the use prior to 1985; is that right?
DR. THOMPSON: Object to form.
A. That's when her tract would be open and the talcum powder could get to her ovaries, yes.
BY MR. ZELLERS:
Q. In your report, you rely on Dr. Godleski's pathology report in forming your case-specific opinions; is that right?
A. Yes.
Q. Dr. Godleski looked at tissue blocks in Ms. Swann's case.
I'll provide you with Dr. Godleski's report.
A. Thank you.
Q. We'll mark it as Exhibit 51.
(Whereupon, Deposition Exhibit Wolf-51, 4/18/19 Godleski Expert Report re: Swann, was marked for identification.)
BY MR. ZELLERS:
Q. You have Dr. Godleski's report in front of you; is that right?

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A. I do.
Q. The tissue blocks that Dr. Godleski looked at in Ms. Swann's case, they were from her right and left ovaries, right fallopian tubes and right pelvic lymph node; is that right?
A. So right and left ovaries and fallopian tubes, so both tubes, I believe.
Q. Looking at page 2 --
A. That's where I'm looking also. Are you at the top of the page or --
Q. Top of the page.
A. Yeah. The right and left ovaries and fallopian tubes, so I assume that means both tubes, and right pelvic lymph node.
Q. Dr. Godleski found 929 particles in the tissue blocks, page 4?
A. Yes.
Q. Of the 929 particles that he found, 324 particles had a variety of foreign particles; is that right? And I'm looking at page 4.
A. A variety of constituents indicative of foreign particles, including

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talc, yes.
Q. The two talc particles found in the tissues were in blocks C5 from the left ovary and F1 from the right pelvic lymph node; is that right?
A. Yes.
Q. So as I understand Dr. Godleski's report, only two of the 324 foreign particles he found were talc, correct?
A. Two particles were talc, yes.
Q. Two out of the 324 foreign particles?
A. Yes.
Q. Do you have any idea as to how those other 322 foreign particles came to be in Ms. Swann's body?
A. They came in from the outside, like the talc.
Q. You believe that those foreign particles would have traveled up the genital tract into the ovaries and fallopian tubes and pelvic lymph node, correct?
A. I believe they could have, yes.
Q. Do you have any idea what the

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other 322 foreign particles might be?
A. He doesn't give any description about what they were, other than nine other magnesium and silicon particles that were not talc.
Q. So in forming your case-specific opinion here regarding Ms. Swann, you didn't do any investigation into trying to figure out what those other foreign particles were; is that correct?
A. I did not.
Q. Could the other foreign particles have played a role in Ms. Swann's development of ovarian cancer?
MS. GARBER: Object to the form.
DR. THOMPSON: Object to form.
A. I don't know what the other particles were, and I'm not aware of other foreign particles that are not talc or asbestos or known carcinogens that have been associated with increased risk of ovarian cancer.
BY MR. ZELLERS:
Q. Of the 929 particles in the

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tissue blocks, 605 particles were endogenous to the tissues, correct?
A. Yes.
Q. What does endogenous to the tissues mean?
A. Meaning it comes from within the body.
Q. Do you have any idea what role these endogenous particles might have played in the development of Ms. Swann's ovarian cancer?
DR. THOMPSON: Object to form.
A. He lists the endogenous particles composed of calcium, iron, carbon, sodium, potassium and phosphorus. None of those things cause ovarian cancer.
BY MR. ZELLERS:
Q. In any of Dr. Godleski's records which you've referenced in your report, did Dr. Godleski find evidence of chronic inflammation around these talc particles?
A. I'm just looking at his histologic...
(Document review.)

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A. He did not see any lymphocytes or macrophages or any other white blood cells, but as I said before, chronic inflammation is not something that's necessarily going to show up in pathology. Cytokines, growth factors don't show up on pathology slides.
BY MR. ZELLERS:
Q. As we've talked in some of the other cases, you may or may not see a chronic inflammatory response around particles, correct?
A. You don't -- you don't have to see it for there to be chronic inflammation.
Q. My question though is: You may see chronic inflammation as part of a pathology slide, but you may not for the reasons that you've told us in this deposition?
A. You may see lymphocytes or macrophages, which can be a sign of chronic inflammation, but not seeing them does not mean there's not chronic inflammation.
Q. Hypothetically, had you not seen Dr. Godleski's report, based upon

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everything else in Ms. Swann's case that you reviewed, your opinion would be the same, correct; that her talcum powder use was a cause of her ovarian cancer?
A. As I've said in the other cases, this is supportive of talcum powder being the case, but not required -- being a cause of her cancer, but not required.
Q. Without Dr. Godleski's report, would your opinion in Ms. Swann's case be the same?
A. Ms. Swann had significant -- sufficient use of talcum powder that whether Dr. Godleski saw fibers or particles in her tissue or not would not change my opinion.
Q. Are you familiar with an article by Schildkraut in 2021? Davis and Schildkraut are the authors.
A. Yes.
Q. Let's mark that as Deposition Exhibit 52.
(Whereupon, Deposition Exhibit Wolf-52, Genital Powder Use and Risk for Ovarian Cancer... by Davis et al, was marked for identification.)

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BY MR. ZELLERS:
Q. You're familiar with the Schildkraut meta-analysis that's set forth in this paper; is that right?
A. Yes.
Q. You rely on it for your opinion that there is a dose-response, and go to your amended report, page 18; is that right?
A. I considered it in my opinion.
DR. THOMPSON: Object to form.
BY MR. ZELLERS:
Q. Are you aware that one of the things --
DR. THOMPSON: I'm sorry. Can I just have a second to go to that part of her report, because it --
MS. GARBER: Where did you say you were?
DR. THOMPSON: I just want to make sure it's the same Schildkraut study that you're referring to. I think it probably is not.
MR. ZELLERS: It probably is not?
DR. THOMPSON: I just want to

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check.
MR. ZELLERS: Sure.
DR. THOMPSON: Page 14?
MR. ZELLERS: Page 18.
DR. THOMPSON: 18.
A. I'm sorry. I didn't realize we were talking about a reference to my report. I thought you asked me --
BY MR. ZELLERS:
Q. I did. I did. I'm not -- all I asked you was: Is this something that you looked at and referred to in your report? And I think you said yes, and that was --
A. No. You -- you asked me if I was familiar with this paper.
Q. Right.
A. And I said yes.
DR. THOMPSON: And then you said you referred to this in -- as support for dose-response, correct? Isn't that what you asked her?
MR. ZELLERS: I did.
DR. THOMPSON: And the Schildkraut referred to for dose-response is 2016, not the paper

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that you just gave us.
MR. ZELLERS: Ah. Thank you.
DR. THOMPSON: You're welcome.
BY MR. ZELLERS:
Q. So we talked earlier about Schildkraut 2016, correct, generally?
A. Generally.
Q. So this paper is a 2021 paper by Davis, and Schildkraut is another one of the authors; is that right?
A. That's correct.
Q. One of the things that Schildkraut was studying in this 2021 article was the potential connection between talc and ovarian cancer in the African-American population; is that right?
And I'm looking at the Abstract, Background, for that information.
A. Yes, so looking at genital powder use and ovarian cancer risk in African Americans.
Q. And specifically the authors state: Genital powder use is more common among African American women; however, studies of genital powder use and ovarian

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cancer risk have been conducted predominantly in white populations and histotype-specific analyses among African American populations are limited.
That's what the authors state, right?
A. That's correct. That's what they state.
Q. And do you agree that genital powder use is more common among African American women, if you know?
A. Yes. That's been found in most of the studies where there's any African American women. Although he's correct in saying that most of the studies don't have very many African American women.
Q. Under Results, the authors state: The prevalence of ever genital powder use for cases was 35.8% among African American women and 29.5% among white women.
Is that right?
A. Are you looking at the results in the paper or the results in the abstract?
Q. I'm looking at the results in

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the abstract.
A. So the prevalence of ever powder use is what you're talking about? Yes. 35.8% in African American women and 29.5% in white women.
Q. In this study the authors found that there was not a dose-response relationship regarding frequency or duration of genital powder use and ovarian cancer among African American or white women; is that right?
And I'm looking at the Discussion section on page 4 of this article.
DR. THOMPSON: Object to form.
A. I'm looking for the results that show that, so just give me one minute.
BY MR. ZELLERS:
Q. Sure.
(Document review.)
MR. ZELLERS: Let's go off the record just for a second.
(Recess taken, 2:50 p.m. to 2:54 p.m. CDT)
BY MR. ZELLERS:
Q. I had asked you when we took a

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short break if you agreed with the authors' conclusions in this Schildkraut and Davis 2021 publication that there was not a dose-response relationship regarding frequency or duration of genital powder use and ovarian cancer among African American or white women.

MS. GARBER: Object to the form.

DR. THOMPSON: Object to form.

A. So I looked at the results of the tables. I read the results and then looked at the tables that correspond to frequency of use, which they looked at less than once a week or more than once a week. They looked at all women, African American women and white women. And they separated out high-grade serous, which is the type of cancer Ms. Swann had, from all other histotypes.

And in African American women, there were 14 who used -- reported using less than once a week, and their relative risk was 1.18. There were 122 who used it more than once a week, and their relative risk was

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1.34. It was not statistically higher, but it was definitely higher.

And then in Table 5 -- and this is on page OF7, looking at duration of use, again, they looked at all participants, separated out African American women, white women, all cases, high-grade serous cases and other histotypes. And now I'm specifically looking again at African American women, high-grade serous, less than 20 years use, 1.53 relative risk; greater than 20 years, 1.19.

So I did not see a difference -- a statistically significant difference in either case, but in frequency, which was fairly nonspecific and few people who used it less than once a week, it was higher in the more frequent users.

And in the range where Ms. Swann is given that she had her tubes tied after 15 years of use, less than 20 years of use in this study, the risk was 1.53.

BY MR. ZELLERS:

Q. But not statistically

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significant, correct?

DR. THOMPSON: Object to form.

A. The 1.53 is statistically significant.

BY MR. ZELLERS:

Q. All right. Do you disagree with the authors' statement in the Davis and Schildkraut 2021 paper that there was not a dose-response relationship regarding frequency or duration of genital powder use in ovarian cancer among African American or white women?

A. I do somewhat disagree with it because when I look at the results -- and I'm particularly looking at Ms. Swann, she fits all the categories of the highest risk. There is a higher risk with more frequency of use and high-grade serous in African American women, although not statistically significant, and in African American women who use it less than 20 years, there's a 1.53 odds ratio risk, and that would be right where Ms. Swann sits.

Q. Do you disagree with the finding as it relates to Ms. Swann and her

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particular characteristics or do you disagree with the authors' conclusion that they did not find dose-response?

DR. THOMPSON: Object to form.

A. Well, I -- two things. Specifically, I disagree with Ms. Swann. As far as frequency of use, I disagree with the findings. There was an increased risk, although it wasn't statistically significant.

BY MR. ZELLERS:

Q. So the authors are wrong when they state there was not a dose-response relationship regarding frequency or duration of genital powder use and ovarian cancer among African American or white women per your reading of this study?

DR. THOMPSON: Object to form.

A. That is not what I said. What I said was, as far as the frequency of use, I disagree with that statement. There was no statistical significant difference in duration of use.

BY MR. ZELLERS:

Q. So --

A. I agree with that part of the

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statement.
Q. -- you disagree with the authors with respect to frequency, but not with respect to duration, correct?
DR. THOMPSON: Object to form.
A. I believe that their findings support a difference with increased frequency and not with increased duration.
BY MR. ZELLERS:
Q. In order to establish dose-response, do you need both frequency and duration or is just duration enough or just frequency enough?
A. I think you could have one or both or -- but not -- I don't believe that you have to have both. But Ms. Swann had frequency and duration.
Q. The authors -- if we look at their conclusion number 1 in the abstract, while genital powder use was more prevalent among African American women, the associations between genital powder use and ovarian cancer risk were similar across race and did not materially vary by histotype.
Do you agree with that?

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A. I agree that that was the findings in their report.
Q. That's not what you would necessarily expect if talcum powder was causing ovarian cancer, correct?
DR. THOMPSON: Object to form.
A. I'm going to disagree with that statement. The fact that African American women used talc more often than whites doesn't necessarily mean that talcum powder's going to cause more ovarian cancer in them, because they're different people. They have different genetic makeups. In fact, every African American or every white woman has a different genetic makeup.
BY MR. ZELLERS:
Q. I understand that, but we're looking at them collectively in this study, correct?
A. Yes.
Q. And the authors acknowledge and you've acknowledged that genital powder use is more common among African American women, correct?
A. 35% versus 30%, 29.5%, in this

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study.
Q. And yet, in this study what the authors found is that even though African American women used talc more than white women, these authors did not find a statistically significant association in African American women, but they did in white women; is that right?
DR. THOMPSON: Object to form.
A. They did not find a difference between the association in African American women and white women. They found an association in both, but it was about the same.
And what I'm saying is that they are different groups of women, and so just the fact that one group used more talc -- had a higher rate of use of talcum powder than the other doesn't necessarily mean that they should have more ovarian cancer or a higher risk.
BY MR. ZELLERS:
Q. But you would expect the group of women that used more talcum powder to have a higher risk of ovarian cancer, if your

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opinions in this matter are correct, right?
DR. THOMPSON: Object to form, asked and answered.
A. No, that's -- that's not true.
BY MR. ZELLERS:
Q. Explain why, then, that you would not expect the group of women who used talcum powder more, why you would not expect them to have a higher rate of ovarian cancer.
DR. THOMPSON: Object to form, asked and answered.
THE WITNESS: So when it's been asked and answered and that's your objection, I'm not sure if I'm supposed to answer again or not.
DR. THOMPSON: Yeah, you are.
THE WITNESS: Okay.
A. So more African American women use powder. The risk of developing ovarian cancer from powder was the same in African American and white women, or similar.
Let's see. The -- the African American women was 1.22, 1.36.
Just because more African American women use talc doesn't mean that

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they're going to get -- that the risk -- the odds ratio has to be higher in them.
Q. Why not?
A. I don't know how better to explain it. Why would it be?
Q. Because more African American women use talcum powder.
DR. THOMPSON: Object to form, same objection, asked and answered numerous times.
BY MR. ZELLERS:
Q. So if you have a group of women who use talcum powder more than another group of women, wouldn't you expect the group of women who used talcum powder more frequently, that they would have a higher risk of ovarian cancer if, you know, your theory and your opinions are correct?
DR. THOMPSON: Object to form.
A. No.
DR. THOMPSON: Asked and answered numerous times.
A. That's not what I would expect. I would expect if we had genetically homogeneous women that might be true, but we

Page 655

don't. We know that African American women have a lower risk of ovarian cancer overall compared to white women.
BY MR. ZELLERS:
Q. Do you know why?
A. Because -- do I know why? Not specifically, no.
Q. The reason, then, that you don't find it unusual, the findings in this study, is because there's something about African American women which we don't know that makes them less susceptible to ovarian cancer; is that correct?
DR. THOMPSON: Object to form.
A. Epidemiologically, that's correct.
BY MR. ZELLERS:
Q. Before I get too far ahead, I want to go back to family history. And I was able to go back and look at the deposition. And your counsel can show you what we've marked or will mark as Deposition Exhibit 53.
(Whereupon, Deposition Exhibit Wolf-53, Excerpt from Lydia Huston Deposition, was marked for

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identification.)
BY MR. ZELLERS:
Q. And it's an excerpt from the deposition of Ms. Huston, page 53, beginning at line 7.
DR. THOMPSON: If you want to read her the passage while I'm getting it up, that's fine.
BY MR. ZELLERS:
Q. Ms. Huston, Ms. Swann's daughter testified that Ms. Swann's paternal aunt had breast cancer, and the testimony is:
QUESTION: All right. On page 18, under Family Medical History, we've got Edna Pye Ball, paternal aunt, now deceased, breast cancer.
I think when we were talking earlier, you mentioned another aunt on your dad's side. I think you told me that both Mae and Annette had breast cancer; is that right?
ANSWER: And my grandmother, my paternal grandmother, yes.
Okay.
And with Edna Pye Ball, I'm

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just not sure of the date.
So does the reference to page 18, under Family Medical History, Edna Pye Ball, now deceased, breast cancer, does that refresh your recollection as to Ms. Swann's paternal aunt having breast cancer?
And I'm sorry, Doctor, I don't have the testimony --
A. That just confused me more because --
Q. Let me ask you, then, a hypothetical.
If Ms. Swann's paternal aunt had breast cancer, hypothetically --
A. Paternal aunt had breast cancer.
Q. Yes.
A. Yes.
Q. Would that be information that you would consider in terms of determining whether family history was a risk factor in her case?
DR. THOMPSON: Object to form.
A. A paternal aunt who had breast

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cancer, I would need more information about was it premenopausal or postmenopausal, because somewhere else it says it was the paternal grandmother who had breast cancer --
BY MR. ZELLERS:
Q. I understand.
A. -- so I'm not clear.
Q. That's why I'm asking you in terms of a hypothetical.
A. I would need more information.
Q. All right. Is a finding that a patient's paternal aunt had breast cancer, is that a factor you would consider when looking at family history?
A. I consider the entire family history. One paternal aunt who had breast cancer would not put a patient at increased risk for ovarian cancer.
Q. How about a paternal aunt with breast cancer and a grandmother with ovarian cancer? Hypothetically, if those are the facts in this case --
A. What side is the grandmother on?
Q. We looked at that record early

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on. We don't know. So that was an earlier deposition exhibit --
A. 49.
Q. -- 49, the record from Missouri Baptist Medical Center, that the grandmother had ovarian cancer.
A. I see that.
Q. So my question to you is, and I'll phrase it in terms of a hypothetical, that in a case if a patient has a grandmother with ovarian cancer and a paternal aunt with breast cancer, is that supportive of family history being a risk factor or a potential risk factor for ovarian cancer?
DR. THOMPSON: Object to form.
A. With that information alone, that does not give me any information to support a family history. The grandmother could be on the maternal side, the aunt on the father's side. That would have no relationship.
BY MR. ZELLERS:
Q. If, hypothetically, both relatives were -- well, strike that.
Hypothetically, if the

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grandmother was a blood relative of the patient --
A. Well, I would assume she was, unless the patient was somehow adopted.
Q. Right. And the paternal aunt was a blood relative, so that in our hypothetical --
A. I would assume -- yeah. Okay. So it could be -- okay.
Q. So assume both the paternal aunt that had breast cancer and the grandmother, blood relative, had ovarian cancer. Would that be enough for you to consider in a case the possibility of family history being a risk factor for ovarian cancer?
A. Not unless I knew that the grandmother was from the same side of the family as the paternal aunt, and I had more information about the paternal aunt's grandmother; was it premenopausal or postmenopausal?
Q. That's what you would need in terms of additional --
A. To make some kind of an

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assessment. I'm sorry.
Q. That's all right.
That's the additional information you would need to make an assessment as to whether family history was a potential risk factor?
A. Yes.
Q. A couple more questions.
Are you aware that Ms. Swann had vulvar lesions while being treated with chemotherapy?
And I can show you the record, but --
A. Yeah, I vaguely remember that. But I don't remember the details, if you have that record.
Q. Sure.
Let's mark as Deposition Exhibit 54...
(Whereupon, Deposition Exhibit Wolf-54, Medical Record(s), SWANNV_ELBENDARYA_0035 - SWANNV_ELBENDARYA_0036, was marked for identification.)
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BY MR. ZELLERS:
Q. Do you see Deposition Exhibit 54, this medical record excerpt, and I'm looking at the second paragraph: On examination she has an area on the right side of the lower vulvar area near the posterior -- is that fourchette?
A. Fourchette.
Q. -- that is irregularly shaped. It is obviously abraded. It has the appearance of a possibility that there were several blisters that became confluent.
A. I see that.
Q. All right. Ms. Swann reported to a nurse practitioner that she was using cornstarch and Vaseline on her vulvar area and rectum. Are you aware of that?
A. I see that there, yes.
Q. The nurse practitioner told her to stop using the cornstarch; is that right?
A. Yes.
Q. We had looked earlier at the Wentzensen and O'Brien article from 2001 [sic], and do you recall in that article that the authors also discussed cornstarch as an

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inflammatory agent?
DR. THOMPSON: Object to form.
A. I don't recall that from that paper, and I think that paper was from 2021, not 2001.
BY MR. ZELLERS:
Q. If I said 2001, I misspoke. It was from 2021.
Cornstarch can cause inflammation; is that right?
A. Acute inflammation.
Q. Well, cornstarch can cause either or both acute inflammation or chronic inflammation, correct?
DR. THOMPSON: Object to form.
A. Cornstarch can cause acute inflammation. What's not clear for me for this was, was she using cornstarch to try to treat that area, which is what I was assuming when I was reading this.
BY MR. ZELLERS:
Q. Can cornstarch cause chronic inflammation?
A. Cornstarch is broken down by the body, and so it can cause acute

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inflammation, but it doesn't last -- stay there to cause chronic inflammation.
Q. Is that a no to my question?
DR. THOMPSON: Object to form.
A. As far as I'm aware, cornstarch causes acute inflammation. It's broken down by the body, and so it wouldn't cause a chronic inflammatory response.
BY MR. ZELLERS:
Q. Cornstarch, because of the sugars it contains, can cause yeast infections, correct?
DR. THOMPSON: Object to form.
A. I'd have to see a paper that shows that cornstarch causes yeast infections. That's not something that I'm clinically aware of.
BY MR. ZELLERS:
Q. Do you have the Wentzensen paper?
A. I do.
(Interruption by the stenographer.)
(Discussion off the record.)
///

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BY MR. ZELLERS:
Q. Doctor, I'm looking on page 2 --
A. Yes.
Q. -- of the Wentzensen and O'Brien paper, 2021.
A. Yes.
Q. The very last sentence, page 2, under Chemical Properties of Talc and Body Powder?
A. I see that.
Q. The authors state: It cannot be excluded that other ingredients of body powders, such as cornstarch, may also have biological effects, for example, by causing irritation or inflammation of the female reproductive tract.
Do you see that?
A. I see that.
Q. And you have no disagreement with that, do you?
DR. THOMPSON: Object to form.
A. That's what I just said before, that it can cause inflammation.
///

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BY MR. ZELLERS:
Q. All right. Are you aware that the FDA banned cornstarch on surgical gloves because of the inflammatory responses it can cause?
A. Yes. It banned any powder use on surgical gloves, I think, in the '90s.
Q. You --
A. Or maybe the 2000s. I don't remember the year.
Q. Do you consider douching to be a risk factor for ovarian cancer?
DR. THOMPSON: Object to form.
A. I do not, but I highly discourage my patients from douching.
BY MR. ZELLERS:
Q. Why is that?
A. Because it upsets the normal bacterial flora in the vagina and can increase the risk of infection.
Q. Are you familiar the Sister Study, which is one of the cohort studies?
A. I am.
Q. And that's Gonzalez 2016, and they wrote an article, Douching, Talc Use and

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Risk of Ovarian Cancer, correct?
A. I don't remember the exact title of it.
Q. Let's mark as Exhibit 55...
(Whereupon, Deposition Exhibit Wolf-55, Douching, Talc Use, and Risk of Ovarian Cancer, by Gonzalez et al, was marked for identification.)
BY MR. ZELLERS:
Q. Have you had a chance to take a look at the article?
A. Yes.
Q. And it's titled Douching, Talc Use and Risk of Ovarian Cancer; is that right?
A. Yes.
Q. The authors found -- and I'm looking under Results in the Abstract: There was little association between baseline perineal talc use and subsequent ovarian cancer. Douching was more common among talc users, and douching at baseline was associated with increased subsequent risk of ovarian cancer.
Do you see that?

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A. I see that.
Q. So this study found a statistically significant increased risk for ovarian cancer for douching but not for perineal talc use; is that right?
DR. THOMPSON: Object to form.
A. This study -- what they asked, if you look just above the Results in their Methods: At baseline, participants were asked about douching and talc use during the previous 12 months.
So that -- they only looked at that one-year period, the previous 12 months from the time they were asked.
That's not enough information for me to know what any association or results that they got, what they mean from their study. And this is the only study that I'm aware of that showed any correlation between douching and ovarian cancer risk.
BY MR. ZELLERS:
Q. Well, they go on to say that: During follow-up, 154 participants reported a diagnosis of ovarian cancer. And the median follow-up was 6.6 years. Is that right?

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A. Yes.
Q. Do you consider douching with also using talc to be a risk factor for ovarian cancer?
DR. THOMPSON: Object to form.
A. Again, I'm not aware of any studies that look at specifically the combination of those two activities other than this study, and douching is not something that -- again, I highly recommend my patients do not douche for many reasons. Not for ovarian cancer risk, but for other health reasons and infection reasons.
And this is the only study that I'm aware of that found that douching was a risk for ovarian cancer. And it was a poorly designed study as far as the questions they asked and the usage of either douching or talc use.
BY MR. ZELLERS:
Q. Do you consider douching with also using talc to be a potential risk factor for ovarian cancer, but more information and study is needed?
DR. THOMPSON: Object to form.

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MS. GARBER: Object to the form.
A. I would not recommend anybody do more study on douching of anything because I think it's not a good thing. It's not healthy for women to douche.
BY MR. ZELLERS:
Q. In Ms. Swann's case, as in the other cases we've talked about, there's the potential that there could be an unknown cause or risk factor for ovarian cancer that's related to her diagnosis of ovarian cancer, correct?
DR. THOMPSON: Object to form.
MS. GARBER: Object to the form.
A. So I reviewed all of the -- all of her records and her risk factors, and everything that's identified as a risk factor for ovarian cancer or a protective factor I assessed, and her risk factor that was clear for me for ovarian cancer was her talc use.
BY MR. ZELLERS:
Q. Could you answer my question?
A. I don't remember your question.

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DR. THOMPSON: Object to form.
BY MR. ZELLERS:
Q. All right. In all of these cases, there's a possibility of an unknown cause of ovarian cancer, either unknown or undiscovered, correct?
DR. THOMPSON: Object to form.
A. In Ms. Swann's case and in all of the cases that we've discussed today and yesterday, Ms. Gallardo, and this case too, given what I know about ovarian cancer and the risks factors that are known, I think it's highly unlikely that there would be something else that caused -- would be a cause of her ovarian cancer that was -- that I did not already assess, something unknown. It would be highly unlikely.
BY MR. ZELLERS:
Q. Well, we have the possibility of a family history, correct?
MS. GARBER: Object to the form.
DR. THOMPSON: Object to form.
A. I have no evidence in her family history that that's a risk factor.

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BY MR. ZELLERS:
Q. We have the possibility of a hereditary gene mutation or a gene mutation that is not yet -- let me withdraw that.
There's the possibility of a genetic gene mutation that either has not been tested for or not been discovered, correct?
MS. GARBER: Object to the form.
A. There's nothing in her history that suggests that she has any genetic mutation, inherited genetic mutation.
BY MR. ZELLERS:
Q. It's a possibility, correct?
MS. GARBER: Object to the form.
A. It's highly unlikely. There's nothing in her history to suggest that or support that.
BY MR. ZELLERS:
Q. What would you look for that might be indicative or create the potential for an undiscovered or undiagnosed gene mutation?

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DR. THOMPSON: Object to form. That's asked and answered on numerous occasions.
A. Well, I'm not sure what you're asking. Are you asking what in a family history would I look for?
BY MR. ZELLERS:
Q. No. What I'm saying is there are many undiscovered genetic mutations, correct? I mean, that's a common fact.
A. That doesn't mean they're inherited. There are many genetic mutations.
Q. Let's put aside inherited. So I'm asking you --
A. So not inherited.
Q. Not inherited. Genetic mutations.
A. There are many genetic mutations in ovarian cancer. Every ovarian cancer has many, many genetic mutations by the time we find it's cancer.
Q. Understood.
There may be genetic mutations that are yet undiscovered, correct?
DR. THOMPSON: Object to form.

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A. There may be genetic mutations that are rare that are found in some cancers. That would not have any impact on my opinion in this case.
BY MR. ZELLERS:
Q. Understood.
In your opinion, there are no other possible causes for Ms. Swann's ovarian cancer other than talcum powder use; is that your opinion?
DR. THOMPSON: Object to form.
A. I'm going to go back to ovarian cancer is multifactorial, and the only thing that I can find in her history that is a clear risk factor and a causative factor of ovarian cancer is her talc use.
BY MR. ZELLERS:
Q. We did discuss many times, and neither one of us want to repeat it, but we discussed many times that the majority of ovarian cancers have an unknown cause, correct?
DR. THOMPSON: Object to form.
A. You have said that many times, and I have said that ovarian cancer is

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multifactorial, about 15% of the time there's an inherited mutation. The other ones it's some noninherited exposure. Things like talc, endometriosis, incessant ovulation, infertility, nulliparity, those are things that can be causes of ovarian cancer.
Some women have more than one of those that you can identify. Some have none, some have one.
Q. In the majority of cases of ovarian cancer, the specific cause cannot be determined. Agreed?
DR. THOMPSON: Object to form.
BY MR. ZELLERS:
Q. I understand in this case you believe you've determined at least a cause of the ovarian cancer. My question is broader, that in the majority of cases of ovarian cancer, a specific cause or causes cannot be determined. Agreed?
MS. GARBER: Object to the form.
DR. THOMPSON: Object to form.
A. I don't agree with that statement.

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BY MR. ZELLERS:
Q. So your testimony is, in the majority of cases, physicians, competent physicians, can determine the cause of the ovarian cancer?
MS. GARBER: Object to the form.
DR. THOMPSON: Objection.
MR. ZELLERS: No. If that's her testimony, I'd like to understand that.
DR. THOMPSON: That is not her testimony.
THE WITNESS: That is not my testimony.
(Simultaneous discussion interrupted by the stenographer.)
DR. THOMPSON: That misstates her testimony on multiple occasions.
A. So my testimony is that about 15% of ovarian cancers have a recognizable inherited genetic mutation, which is a risk factor. And there are multiple other risk factors for ovarian cancer. Some women have more than one that you can identify. Some

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have one. Some have none.
BY MR. ZELLERS:
Q. And my question to you is: Do you agree that in the majority of cases of ovarian cancer, a specific cause cannot be determined?
DR. THOMPSON: Object to form.
A. I'm going to give you the same answer I just gave you; that women -- some women with ovarian cancer have a known inherited mutation that increases their risk.
BY MR. ZELLERS:
Q. And we've agreed that's 10 to 15%, correct?
A. Yes.
Q. All right. And so my question is: In the majority of cases, putting aside the 10 to 15% where there is, you know, a known hereditary genetic mutation, putting those aside, in the other 85% of cases, the majority of cases, we don't know what causes a particular woman's ovarian cancer.
DR. THOMPSON: Object to form, asked and answered.
A. My answer is that in many of

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the other women who don't have an inherited genetic mutation, you can identify one or more risk factors that can be a cause of her cancer.
BY MR. ZELLERS:
Q. Can be, but you don't know if they are or are not, correct?
DR. THOMPSON: Object to form, asked and answered.
A. A genetic mutation can be a cause of her cancer. If she doesn't have a genetic mutation and has another risk factor, that can be a cause of her cancer.
BY MR. ZELLERS:
Q. Most cases of ovarian cancer are sporadic; is that right?
DR. THOMPSON: Object to form.
MS. GARBER: Object to the form.
A. Sporadic means not inherited, most of the time in the medical literature. That doesn't mean you don't know what the cause of it could be.
BY MR. ZELLERS:
Q. Then let me ask you this

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question, and if you can answer it, I'll be off of this topic.
Is it your opinion that in the majority of cases of ovarian cancer, that you can determine what caused the ovarian cancer?
DR. THOMPSON: Object to form.
A. It is my opinion that in many women you can -- you or anyone can identify risk factors that could cause her cancer.
BY MR. ZELLERS:
Q. Risk factors are not cause. We've discussed that a number of times, correct?
DR. THOMPSON: Object to form.
A. So a risk factor can cause.
BY MR. ZELLERS:
Q. It can or cannot. I mean, it could be either one, right?
DR. THOMPSON: Object to form.
A. A causative risk factor -- a risk factor can cause, increases the risk.
BY MR. ZELLERS:
Q. It increases the risk, but we've talked about a woman could have a family history, a woman could have hormone

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replacement therapy, could have age, could have a number of risk factors, could be BRCA-positive, but that doesn't necessarily mean that any one or combination of those things caused her ovarian cancer, correct?
MS. GARBER: Object to the form.
DR. THOMPSON: Object to form, asked and answered. I think we're about up to 30.
A. I don't even know what that question was. I got confused. I'm sorry. So that...
BY MR. ZELLERS:
Q. Well, the question is: You've agreed that just because a woman has a risk factor does not mean that that risk factor is going to cause the woman to have ovarian cancer, correct?
DR. THOMPSON: Object to form, again.
A. So a risk factor doesn't have to cause cancer, but if a woman has cancer and she has a known risk factor, I consider that a cause of her cancer.

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BY MR. ZELLERS:
Q. That's the way you've analyzed the cases and that's the basis on which you're giving opinions in this case, correct?
A. The basis of my opinions is by reviewing all of the records to see what the risk factors were, to see if there's -- if it fits a known risk factor that could be a cause.
Remember, there's multiple injuries to the cell that need to lead to ovarian cancer, so she can have more than one to cause her cancer.
Q. The way you approached these cases is that if a woman has ovarian cancer and has a recognized risk factor, then you believe that the risk factor or factors that a woman may have are a cause of her ovarian cancer, correct?
DR. THOMPSON: Object to form.
A. That is partly how I assess these cases.
BY MR. ZELLERS:
Q. And that's why, for a woman that has ovarian cancer and has what you

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determine to be sufficient exposure to talcum powder, you believe that whether talc is found in the tissue or not, that talcum powder use is a causative factor of the woman's ovarian cancer, correct?

DR. THOMPSON: Object to form.

A. If I review the entire history and everything and I assess that talcum use was sufficient, that she had a patent reproductive tract, that her type of ovarian cancer is the type of ovarian cancer, epithelial, that is associated with talc use, in the cases that we've talked about today, I have assessed that those are -- it's a cause of their cancer.

MR. ZELLERS: All right. So let's take a break. I may have one or two other questions, but I'm essentially done.

(Recess taken, 3:37 p.m. to 3:49 p.m. CDT)

BY MR. ZELLERS:

Q. Dr. Wolf, in Ms. Swann's case, have you spoken with -- and maybe I've asked you this already -- have you spoken with any

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of her treating physicians?

A. I have not.

Q. Is this the case in which one of your former residents was a treating physician, or that was Judkins?

A. That was Judkins, one of my former fellows.

Q. So let me ask my questions for Swann.

In Ms. Swann's case, have you spoken with her daughter at all?

A. No.

Q. Have you spoken with any of the treating physicians in Ms. Swann's case about her medical history or ovarian cancer diagnosis?

A. No.

Q. You never were a treating physician with respect to Ms. Swann?

A. No.

Q. Never participated in her care; is that right?

A. That's correct, I have not.

Q. Your testimony is that for ovarian cancer to occur, there has to be at

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least 5 to 10 genetic mutations; is that right?

A. My testimony is that there has to be multiple mutations, and on average, for epithelial cancers in humans in adults, it's 5 to 10.

Q. Do you agree that in any woman's case, and specifically the four patients we've talked today, today and yesterday, Ms. Gallardo, Bondurant, Judkins and Swann, that you do not know what caused those 5 to 10 mutations that resulted in their ovarian cancer, correct?

DR. THOMPSON: Object to form.

A. So I know that they all had significant talc use and that can cause mutations, one or more. And some of them -- and I can't remember all of the details -- had other risk factors that could cause an inflammatory response and cause mutations.

The only time that I would be able to say one thing caused one of those mutations is if there was an inherited risk factor in a BRCA mutation or some other inherited risk factors that would be one of

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those.

BY MR. ZELLERS:

Q. If we had an inherited risk factor in any of these four cases or in any of the cases that you reviewed, you could definitively say that that inherited risk factor caused one or more of the mutations?

A. One. It can only cause one.

Q. All right. Caused one of the mutations.

A. Yes.

Q. However, for all other risk factors, including talc, you can't say definitively in any case that a specific risk factor caused a genetic mutation, one of the 5 to 10 that are required for a woman to develop ovarian cancer, correct?

DR. THOMPSON: Object to form, asked and answered.

A. I disagree with that clarification. I would say that I can't tell you which mutations were caused by other risk factors, but I know that they can cause mutations.

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BY MR. ZELLERS:
Q. But you can't tell, of the 5 to 10 mutations, which one or more were caused by talcum powder use, correct?
DR. THOMPSON: Object to form.
A. It doesn't matter to me which one or more.
BY MR. ZELLERS:
Q. Well, you can't tell if any of the genetic mutations were caused by talcum powder use, correct?
DR. THOMPSON: Object to form, asked and answered.
A. I know that talcum powder use can cause mutations and can cause ovarian cancer.
BY MR. ZELLERS:
Q. I understand that's your opinion. My question is a little different.
In any individual patient, you're not able to say whether the talcum powder use caused one or two or more of the 5 to 10 mutations required for ovarian cancer or that the talcum powder use caused any genetic mutation, correct?

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DR. THOMPSON: Object to form, asked and answered.
BY MR. ZELLERS:
Q. I mean, that's just not something that's knowable and you're not able to give an opinion on that.
DR. THOMPSON: Object to form.
A. So if I have an ovarian cancer and I can see all of the genetic mutations in that ovarian cancer, it's very difficult to know where those came from unless there is one of those mutations that she has that came from an inherited mutation.
But by the time there's a cancer, there isn't just 5 or 10 that you can see that I would assess, there's hundreds. And I'm telling you that because I've looked at the karyotypes of ovarian cancers and you can see multiple genetic mutations, not just 5 or 10, that led to cancer. Once it's cancer, it keeps mutating.
BY MR. ZELLERS:
Q. Other than in the case of an inherited genetic mutation, you're not able to attribute a particular genetic mutation to any risk factor, correct?
A. It's -- it's difficult to do that.
MR. ZELLERS: All right. I have no further questions, other than -- I'll wait until Ms. Thompson is done. I just want to say we have covered all your opinions, but I'll do that when Ms. Thompson is done.
DR. THOMPSON: Okay. Did you want to look at the CV while she's here?
MR. ZELLERS: Oh, thank you. Thank you so much.
DR. THOMPSON: Anytime, for you.
MR. ZELLERS: All right. Yes.
BY MR. ZELLERS:
Q. So we've marked the CV --
MR. ZELLERS: Have we marked the CV?
All right. The CV we will mark as Deposition Exhibit 56.
(Whereupon, Deposition Exhibit Wolf-56, Curriculum Vitae, was marked for identification.)
BY MR. ZELLERS:
Q. I'm not able to see it because -- well, I don't need to see it. That's okay.
A. Yeah.
Q. You have it electronically in front of you; is that right?
A. I do. I do.
Q. So we're going to print a copy. My understanding, that is your CV as of January 5th of 2019; is that right?
A. Well, I added in my change of position since then.
Q. All right. So the CV that you're looking at has a date of January 5th of 2019, but you updated it some since that -- since then, even if you haven't changed the date?
A. Yes.
Q. Okay.
A. Just with my change in jobs, yes.
Q. Is your CV that we've marked as Deposition Exhibit 56 an up-to-date résumé or

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listing of your background and your training and your publications and your work experience?
A. Pretty much. I do think there may be one or two other publications that are not on there that I haven't pulled out, but generally, yes.
Q. When do you believe you last updated your CV?
A. Well, yesterday I changed the position, but I did not do a PubMed search to find new publications. I'm aware there have been a few, but I haven't put them on.
Q. So you updated it yesterday. You think and believe and are testifying it's up to date, other than there may be one or two publications over the last year or two that are not, you know, on your CV?
A. Yes.
Q. Those publications have nothing to do with talcum powder or causes of ovarian cancer or risk factors for ovarian cancer, correct?
A. They do not.
MR. ZELLERS: All right. I

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have no further questions then, subject to maybe a couple more once Ms. Thompson is done.
THE WITNESS: Okay. Thank you.

EXAMINATION

BY DR. THOMPSON:
Q. Dr. Wolf, I have just a few questions. We'll start with some that are more general.
Looking at the O'Brien paper that's Exhibit 20.
A. Got it.
Q. And did the O'Brien authors look at frequent users of talc?
MR. ZELLERS: Objection, form.
A. I'm going to pull up -- look at their -- so they looked at...
MR. ZELLERS: Doctor, if you could tell us what page you're looking at, once you start to read and are testifying.
THE WITNESS: Yes, I will.
///

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BY DR. THOMPSON:
Q. Well, I'm seeing now that -- yeah, Table 1.
A. Table 1, that's on page 52.
Q. You know, what I'm looking at may be in the supplemental tables.
A. They're in the back of this one.
(Document review.)
BY DR. THOMPSON:
Q. I'm not seeing what I'm looking for, so let's just move on.
A. Okay.
Q. I may come back to that in a second, but...
Were all the plaintiffs that we are discussing today frequent users?
A. They were.
Q. Were there letters to the editor published in JAMA regarding the O'Brien study?
A. Yes.
Q. And what were -- what was the gist of those letters?
MR. ZELLERS: Objection, form.

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BY DR. THOMPSON:
Q. What -- state what those letters said.
MR. ZELLERS: Objection, form.
A. So there were, I believe, a couple of letters that said that -- brought out points that there still may not have been enough patients in the study to make a clear judgment that there was a positive association with talc use and ovarian cancer; that how they assessed -- and that specifically in the serous cancers, because there were more of those, there was a statistically increased use, and that the -- that's what I recall about...
BY DR. THOMPSON:
Q. Do you remember who wrote those letters?
A. I remember Dr. Cramer was one of the authors who wrote those letters. I don't remember the others.
Q. Was Dr. Harlow one of those authors too?
A. Yes, Dr. Harlow.
Q. And are those authors of some

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of the other papers that we've been discussing?
A. Absolutely, yes.
Q. And were those letters consistent with the opinions that you've given regarding the O'Brien study?
MR. ZELLERS: Objection, form.
A. There -- they brought up points in their letters that I -- that are consistent with my opinion.
BY DR. THOMPSON:
Q. Do you remember the questions that Mr. Zellers asked regarding the subtypes of ovarian cancer and Health Canada's conclusions?
A. Yes.
Q. And what does Health Canada assessment conclude about the causation of genital talcum powder use and ovarian cancer?
MR. ZELLERS: Objection, form.
A. That it's -- the conclusions of Health Canada that talcum powder can cause ovarian cancer.
BY DR. THOMPSON:
Q. And did Health Canada

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assessment exclude clear-cell carcinoma?
A. It did not.
MR. ZELLERS: Objection.
BY DR. THOMPSON:
Q. Did the Health Canada assessment exclude endometrioid cancer?
MR. ZELLERS: Objection, form.
A. It did not.
BY DR. THOMPSON:
Q. Did the Health Canada assessment exclude any epithelial ovarian cancers?
A. It did not.
Q. Dr. Zellers asked you about including the strengths of the Health Canada assessment in your report and not the weaknesses.
Do you remember those questions?
A. I do.
Q. Is that what you did?
A. I included the conclusions of the Health Canada report in my report, expert report.
Q. So that would be inaccurate,

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that you included the strengths and not the weaknesses?
A. I included the conclusions, not strengths or weaknesses.
Q. Do you remember the series of articles about endometriosis?
A. Yes.
Q. I believe at one point you said you were not an expert in endometriosis.
What did you mean by that statement?
A. Well, what I meant by that statement is, in my day-to-day practice, I don't medically manage endometriosis, but I certainly have training in endometriosis, being a board certified obstetrician gynecologist.
And I certainly take care of women who have endometriosis, because if they have to have surgical extirpation, removal of their female organs in order to manage their endometriosis, oftentimes those patients are sent to someone like me, a gynecologic oncologist, because the endometriosis causes such scarring that the surgeries can be very

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difficult and risky and most gynecologists are not comfortable operating on them.
So although I don't medically treat them and I'm not usually the one who does the diagnosis, although sometimes I find it when I operate on women, I do take care of endometriosis and -- and, therefore, have clinical expertise in the area.
Q. What are the generally accepted signs and symptoms of endometriosis?
A. The most common and generally accepted are chronic pelvic pain, generally around the time of menses or periods, dyspareunia, which is pain with intercourse, and infertility.
Q. Is a fibrocystic breast condition a sign of endometriosis?
A. No. It's quite common changes in breasts that women have. I think some reports are the vast majority of women have fibrocystic changes in their breasts.
Q. And do you remember seeing in the article that Mr. Zellers showed us that 90% of women have fibrocystic changes in the breast?

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A. Yes. As I said, the vast majority.
Q. Are endometrial polyps a risk for ovarian cancer?
A. No.
Q. Is a previous cesarean section generally recognized as a risk factor for endometriosis?
A. No.
Q. And I believe the article that Mr. Zellers showed you described one additional case of endometriosis every 325 women who had a cesarean section.
Did you see that?
A. Yes. But having a cesarean section is not generally considered a risk factor for endometriosis.
Q. Is having a cesarean section a risk factor for ovarian cancer?
A. No.
Q. Is chronic low back pain a common symptom of endometriosis?
A. No.
Q. Is the use of a soy supplement a risk factor for ovarian cancer?

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A. No.
Q. Did Ms. Gallardo have endometriosis, in your opinion?
A. No. She had none of the symptoms of endometriosis. She had the way -- she had surgery, how you would diagnose endometriosis, and her surgeon saw -- reported no evidence of endometriosis.
And she had pathology reviewed by the pathologist where she had the surgery and by Dr. Godleski, and neither one of them saw any evidence of endometriosis. Nothing in her history or her findings or her report indicated that she had endometriosis.
Q. If Johnson & Johnson would bring to you new evidence that Ms. Gallardo did, in fact, have endometriosis, would that change your opinion as to whether talcum powder is a cause, a contributing cause of her ovarian cancer?
MR. ZELLERS: Objection, form.
A. The first thing I would need to do with any new evidence would be review it and see what it said. It would be hard for me to imagine that her surgeon, Dr. Mutch,

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who I do know is a good doctor, did not see any endometriosis and that two pathologists saw no evidence of endometriosis.
So I would need to see what that would be before it would have any impact on my opinion.
BY DR. THOMPSON:
Q. I think you talked some about the -- the amount and the circumstances around the talcum powder exposure that could lead you to question whether the talcum powder use was a contributing factor.
Are there any other types of pelvic cancer that you would feel like you had insufficient evidence to author a causation opinion for?
MR. ZELLERS: Objection, form.
A. I'm not sure what you're asking.
BY DR. THOMPSON:
Q. Are there other types of cancer, pelvic cancers, that you would -- sorry.
Are there types -- let's not do other types. Are there types of pelvic

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cancer that you would not give a causation opinion on, even with sufficient use of talcum powder?
MR. ZELLERS: Objection, form.
A. So I would not give an opinion that talcum powder use caused vulvar cancer or cervix cancer or anal cancer or colon cancer.
Is that what you're asking?
BY DR. THOMPSON:
Q. That was. Sorry. Not a very good question.
And why would that be?
A. I have no evidence epidemiologically or otherwise that talcum powder causes those cancers.
Q. And are there other types of actual ovarian cancer that you would put in that same category?
A. Yeah. I believe I've stated before that there's no evidence and I would not give an opinion that talcum powder use caused germ cell tumors of the ovary or stromal tumors of the ovary or cancer from somewhere else that was metastatic to

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the ovary, such as colon cancer or breast cancer, which are cancers that commonly go to the ovary.

Q. You reviewed Ms. Gallardo's and Mr. Gallardo's testimony about Ms. Gallardo's -- now I'm having trouble -- talcum powder use, didn't you?

You reviewed their deposition testimony about Ms. Gallardo's talcum powder use, didn't you?

A. Yes, I did.

Q. Did you find their testimony to be credible and reliable?

MR. ZELLERS: Objection, form.

A. I did. They were under oath and they were consistent in what their reports were with her use, and I found them to be credible.

BY DR. THOMPSON:

Q. And would that be true for all of the plaintiffs that we've discussed today or their representative?

MR. ZELLERS: Objection, form.

A. In their depositions, I would find them to be credible.

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BY DR. THOMPSON:

Q. You were asked quite a few questions about the one we can't pronounce, the Saavalainen paper regarding ovarian endometriosis and the risk of gynecological cancer.

Do you remember that?

A. Yes.

Q. I'm going to read from the second page, paragraph: The gold standard --

MR. ZELLERS: I'm sorry. Which study are we looking at now?

DR. THOMPSON: Saavalainen. And it's Exhibit 37, if you want to pull it up.

MR. ZELLERS: And which -- where are you reading from on this?

DR. THOMPSON: I'm reading from the second page of the article, and it is page 2.

MR. ZELLERS: Yes. Right column or left column?

DR. THOMPSON: Left column, first full paragraph, that begins with "The gold standard."

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BY DR. THOMPSON:

Q. The gold standard for diagnosing endometriosis is surgery.

That's what you've been telling us throughout these two days, correct?

A. Yes.

Q. So this paper would agree with your statement to that effect, correct?

MR. ZELLERS: Objection, form.

A. Yes.

BY DR. THOMPSON:

Q. And it says: In the present study, we assessed the risk of gynecologic cancers among women with a surgical diagnosis of endometriosis.

So this paper used only surgically diagnosed endometriosis for their odds ratios; is that right?

A. That's correct.

Q. Did Ms. Bondurant have any surgical confirmation of her endometriosis?

A. No.

Q. So this article would not apply to Ms. Bondurant's case; she would not have been included, right?

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MR. ZELLERS: Objection, form.

A. She would not have been included in this kind of study.

BY DR. THOMPSON:

Q. And obviously, Gallardo, because she didn't have any kind of endometriosis in your reports?

A. She had surgical confirmation of no evidence of endometriosis.

Q. Did the Davis study -- you can pull that out if you want, but I'm just going to ask a question.

Did the Davis study look at both dose -- I'm sorry. Start all over.

Did the Davis study look at dose-response with both duration and frequency of use?

A. No, they looked at it separately, not together.

Q. Did you have that information, both duration and frequency, with each of these four plaintiffs that we've discussed today?

MR. ZELLERS: Objection, form.

A. I did. I had the frequency of

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their use and the timing and the length of their use.
BY DR. THOMPSON:
Q. Is it your opinion -- first of all, one question: Were there other study -- cellular studies other than the -- Dr. Saed's lab that showed malignant transformation with talc exposure of ovarian cells in culture?
MR. ZELLERS: Objection, form.
A. Yes. The Buz'Zard study.
(Clarification requested by the stenographer.)
THE WITNESS: B-U-Z-Z-A-R-D, and there's an apostrophe somewhere in there.
BY DR. THOMPSON:
Q. Is it your opinion that talcum powder use is a substantial and direct contributing factor in causing Ms. Gallardo's ovarian cancer?
A. Yes.
Q. And, in other words, that's a cause of her ovarian cancer?
A. Yes.
Q. Based on the evidence in

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Ms. Gallardo's case, is there any evidence of an unknown genetic mutation?
A. No.
Q. Is there any evidence of an undiagnosed endometriosis?
A. No.
Q. And is it your testimony that the talcum powder use of all four of these plaintiffs was a cause of their ovarian cancers?
A. Yes.
Q. Were -- have you been presented with anything by Mr. Zellers in the last couple of days that would cause you to change any of your general opinions?
A. No.
Q. Have you been presented with anything over these last two days that would cause you to change any of your case-specific opinions?
A. No.
Q. Do you stand by all of the opinions that are contained in your reports?
A. I do.
Q. And are all these opinions

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given to a reasonable degree of medical and scientific certainty?
A. They are.
Q. If there is new information regarding your general opinions, would it be your plan to amend your report, if indicated?
A. Yes.
Q. If there were any new information regarding the individual plaintiffs, would your plan be to review and amend your report, if indicated?
A. Yes.
Q. And would this include reviewing the defense expert reports?
A. Yes.
Q. And you, I think, testified that you diagnose endometriosis on occasion?
A. Yes.
Q. And that you would consider yourself an expert in the -- in endometriosis in women?
A. Yes.
DR. THOMPSON: I have no further questions.
MR. ZELLERS: Just a couple of

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follow-up questions.

EXAMINATION

BY MR. ZELLERS:
Q. First, with respect to Ms. Bondurant and whether or not she would have fit within the Saavalainen study, we don't know, correct?
I mean, in the -- if there was evidence of a surgical diagnosis of endometriosis, then she would be included in the study, correct?
DR. THOMPSON: Object to form.
A. But there wasn't a surgical diagnosis of endometriosis.
BY MR. ZELLERS:
Q. Well, you have not seen it. That doesn't mean it doesn't exist, correct?
A. There is nothing in her history that indicated that she had a surgery that diagnosed endometriosis.
Q. So --
A. So she would not fit into this study. She would not have been included in

Page 710

this study.
Q. And that -- the basis for that statement is that you have not seen anything indicating that she had a surgical diagnosis of endometriosis, correct?
DR. THOMPSON: Object to form.
A. She --
DR. THOMPSON: Misstates her testimony.
A. There's nothing in her history where she had any surgery that diagnosed endometriosis.
BY MR. ZELLERS:
Q. The Health Canada study, where in the Health Canada study does Health Canada reach a conclusion that clear-cell ovarian cancer is causally related to talcum powder use?
MS. GARBER: Object to the form.
DR. THOMPSON: Object to form.
A. They reach a conclusion that ovarian cancer is causally related to talcum powder use, and they did not exclude any of the subtypes.

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BY MR. ZELLERS:
Q. Well, they certainly do. I mean, do you have Health Canada in front of you?
THE WITNESS: Do you remember which number it is?
THE STENOGRAPHER: 26 rings a bell.
THE WITNESS: That's looking correct.
A. I have it in front of me.
BY MR. ZELLERS:
Q. All right. Health Canada, the report, the risk assessment, April 2021, concludes that the epidemiology for the subtypes is inconsistent and underpowered; is that right?
And I'm looking at page 17 at the bottom, Health Canada reports tumor subtypes are one of the many subgroup analyses conducted in several of the epidemiology studies and review; however, there was very little consistency in whether or how the subgroup analyses were conducted across the available studies, thereby leaving

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the analyses limited and likely underpowered (low sample sizes).
Furthermore, there's considerable uncertainty for how subgroup data should be examined, in particular for the tumor subtypes.
That's what Health Canada concludes, right?
DR. THOMPSON: Object to form.
A. That's not a conclusion. And the very next sentence says: Therefore, subgroup analysis will not be further examined.
That doesn't mean they excluded the clear-cells and endometrioid and other subtypes.
BY MR. ZELLERS:
Q. Okay. Please show me where in Health Canada the Health Canada review and assessment concludes and states that there is a causal relationship between talcum powder use and clear-cell ovarian cancer.
DR. THOMPSON: Object to form.
A. I am saying that it concludes that there is a risk of talcum powder

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and ovarian -- epithelial ovarian cancer, and they did not exclude clear-cell and endometrioid.
What they did not do is look at those subgroups separately.
BY MR. ZELLERS:
Q. Nowhere in the Health Canada report does it specifically or expressly say that Health Canada concluded that there was a causal association between talcum powder use and clear-cell carcinoma, ovarian cancer, correct?
DR. THOMPSON: Object to form.
A. What it says is that there's an association of talcum powder use and epithelial ovarian cancer, and the studies that they looked at included all types of epithelial ovarian cancer; and, therefore, clear-cell and endometrioid are in that.
They don't say that clear-cell and endometrioid are not caused by talcum powder use. What they did not do is separately look at them.
BY MR. ZELLERS:
Q. What they said is that with

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subtypes -- and subtypes would be endometrioid, would be mucinous, would be clear-cell ovarian cancer, correct?
A. Yes, those are some of the subtypes.
Q. All right. It says the epidemiology for the subtypes is inconsistent and underpowered.
They say that, right?
A. Given as a reason for why they did not look at those separately.
Q. Right. But they do say that, correct?
A. In the -- they say that, given the reason that that's why they did not look at them separately, but they did not take them out of the studies where they were included and discard them.
Q. They say that for the subtypes, the epidemiology is inconsistent, it's underpowered, and, therefore, there's considerable uncertainty for how subgroup data should be examined, in particular, the tumor subtypes. Therefore, they're not going to analyze the subtypes in this assessment.

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Is that what it says?
DR. THOMPSON: Objection. Asked and answered.
MR. ZELLERS: Okay.
BY MR. ZELLERS:
Q. Is that what it says, Doctor?
A. No, that's not what it says.
DR. THOMPSON: That's not what it says.
A. That's not what it says. It says that they're not going to look at just the subgroup analysis.
So in the studies where they separated out the subtypes, they're not looking at those specific subanalyses, but they're looking at the study as a whole, which includes all of the subtypes.
BY MR. ZELLERS:
Q. All right. Well, nowhere do they separate out and find a causal association between talcum powder use and clear-cell ovarian cancer, correct?
DR. THOMPSON: Object to form.
BY MR. ZELLERS:
Q. There's nowhere in here you can

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point me to where it says we found a causal association between talcum powder use and clear-cell carcinoma ovarian cancer.
A. What it says is that there's a causal association between epithelial ovarian cancer and talcum powder use.
What this is saying that you're showing is that they're not separating them out and looking at all the subtypes individually. They're looking at a whole, including all of the subtypes.
Q. All right. If you can, I'm going to try to ask a really precise question and I'd like you just to answer it.
Is there anywhere that you see in the Health Canada risk assessment that Health Canada expressly states that there is a causal association between talcum powder use and clear-cell ovarian cancer?
Can we find those words in here?
DR. THOMPSON: Object to form.
A. Those words may not be in here, but what is in here is that epithelial ovarian cancer can be caused by talcum powder

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use, and that analysis came from looking at the studies that include all the subtypes of ovarian cancer.
BY MR. ZELLERS:
Q. And I understand that's your position. Two more questions.
Nowhere within the Health Canada risk assessment is there an express statement that Health Canada found a causal association between talcum powder use and endometrioid ovarian cancer, correct?
DR. THOMPSON: Object to form.
A. Same answer as the other one --
BY MR. ZELLERS:
Q. Last --
A. -- that that is included in their conclusions because the studies included all of the subtypes.
Q. Last question. And this is with respect to mucinous ovarian cancer.
There's no express statement in the Health Canada risk assessment that there's a causal association or that they found a causal association between talcum powder use and mucinous ovarian cancer.

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Those words are not in this document, correct?
A. The statement is that epithelial ovarian cancer has a causal association with talcum powder use, and that is in assessing the studies that included all of the subtypes, including clear-cell and endometrioid and mucinous.
Q. And I understand that's your position, and my question is: They don't expressly find a causal association with clear-cell, with mucinous, with endometrioid ovarian cancer, but you believe that that would be subsumed within their statement relating to epithelial ovarian cancer, correct?
DR. THOMPSON: Object to form.
A. It would be, because the studies included all of the subtypes.
BY MR. ZELLERS:
Q. But you do agree with me that those words, mucinous, endometrioid, clear-cell ovarian cancer, are not contained within the Health Canada assessment, correct?
DR. THOMPSON: Object to form.

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A. I don't know if the words mucinous, clear-cell and endometrioid ovarian cancer are contained in here. I'm assuming that they are.
BY MR. ZELLERS:
Q. Understood.
And what I mean is there's no statement, at least that you have seen here, expressly determining that there is a causal association between talcum powder use and any of those three subtypes, clear-cell, mucinous and endometrioid ovarian cancer, correct?
DR. THOMPSON: Object to form.
A. Because they did not look at them separately. They looked at it as a whole.
BY MR. ZELLERS:
Q. Okay. Last question or two.
In your report, Ms. Thompson asked you a couple of questions about O'Brien and some of the letters to the editor, and whether or not O'Brien was sufficiently powered to allow for there to be a finding of an association.
Do you recall those questions?

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A. Yes.
Q. And your recollection is that at least some of the folks who wrote in said maybe there's not enough power or not enough patients included in the -- in the study; is that right?
A. Yes.
Q. You, though, addressed in your report, as we talked about -- you talked about there may be a need for as many -- as many as 200,000 women to study this issue, and you're referring to Narod; and I'm looking at your amended report, page 6.
A. Yes.
Q. And, in fact, O'Brien included over 250,000 women; is that right?
A. Yes.
Q. All right. Let me just check one thing.
Last question -- couple of questions.
Are all of the opinions that you anticipate testifying to at trial or any hearing, you know, as of today based upon the information you reviewed contained in the

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reports that we've marked as an exhibit to the deposition and in the testimony that you've provided?
A. Yes.
Q. All of the materials that you considered and are relying on for your opinions, you know, as of today are contained in what we marked as Exhibit 5, your materials considered and scientific authority list as supplemented in each of the case-specific reports as well?
MS. GARBER: Object to the form.
DR. THOMPSON: Object to form.
BY MR. ZELLERS:
Q. If you can't answer, I'm going to ask it another way.
Is there anything you can think of today that you've reviewed or that you're relying on in terms of formulating your opinions other than what, you know, is contained on your materials list?
MS. GARBER: Object to the form.
A. There's nothing that I can

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think of today that I considered that it has not been presented in the lists and the information that I've shown.

MR. ZELLERS: Thank you for your patience. I have no further questions.

DR. THOMPSON: I'm going to follow up a little with Health Canada. I apologize for that, but -- I'm not apologizing for that. Never mind.

EXAMINATION

BY DR. THOMPSON:

Q. Okay. Let's look at a few places in Health Canada. We'll start with (iii).

A. (iii), that's the beginning.

MR. ZELLERS: What page?

THE WITNESS: (iii). That's the beginning.

BY DR. THOMPSON:

Q. And I'm reading the last -- the next-to-the-last paragraph: With regards to perineal exposure, analyses of the available

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human studies in the peer-reviewed literature indicate a consistent and statistically significant positive association between perineal exposure to talc and ovarian cancer. The available data, meaning the epidemiology studies that we've gone over --

MR. ZELLERS: Well, objection to --

DR. THOMPSON: Sorry. Sorry.

MR. ZELLERS: -- your editorializing.

DR. THOMPSON: Yeah. You're right. You're right.

MR. ZELLERS: You can read it, but that's okay.

BY DR. THOMPSON:

Q. The available data are indicative of a causal effect.

Referring to the association between perineal exposure to talc and ovarian cancer, would the subtypes be included as ovarian cancer in that statement?

MR. ZELLERS: Objection, form.

A. Yes.

BY DR. THOMPSON:

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Q. And did the epidemiological studies that Health Canada referred to as consistent and statistically significant in a positive association often include subtypes?

MR. ZELLERS: Objection, form, misstates the evidence, misstates testimony.

MS. GARBER: Is that a speaking objection?

DR. THOMPSON: It sounded like it, didn't it?

MR. ZELLERS: It's a California objection where we give the bases for our form objection.

MS. GARBER: Oh. I've been here --

MR. ZELLERS: As Ms. Garber knows that.

MS. GARBER: -- all day long, so let me start over with my objections.

A. So the answer to the question is that the studies included epithelial ovarian cancer. Some of them said all the subtypes. Some of them just called it

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epithelial ovarian cancer. And they were included in the analysis that led to this conclusion.

BY DR. THOMPSON:

Q. And let's look at page 17, and in -- on page 17 --

Okay. Let's not look at 17. Let's look at page 36.

A. Okay.

Q. We've already looked at 17.

On page 36, the last, I think, full sentence of the first paragraph: Overall, there's a high degree of consistency in the epidemiological studies across several decades conducted in different parts of the world. Although there are uncertainties related to bias, there's confidence in the robustness of the available database for use in characterizing ovarian cancer risk attributed to talc exposure. Furthermore, the available data are indicative of a causal relationship.

Does the ovarian cancer referred to in that clause include the subtypes?

MR. ZELLERS: Objection, form.
A. It includes epithelial ovarian cancer, which would include all subtypes.
BY DR. THOMPSON:
Q. And then let's go to another place. I don't have the page number, so let me look this up real quick. Okay.
DR. THOMPSON: My Internet went out on me. Sorry.
(Pause.)
BY DR. THOMPSON:
Q. Okay. Let's go to page 43. The paragraph that begins with "Based on the available data."
A. (Nods head.)
Q. Based on the available data, ovarian cancer was identified as a critical health effect for the perineal route of exposure to talc, and a long discussion of why that is.
Data from a meta-analysis of epidemiological studies indicate a consistent and statistically significant positive association between perineal exposure to talc and ovarian cancer, with several references.

Would the ovarian cancer referred to in that clause include all the subtypes of epithelial ovarian cancer?
MR. ZELLERS: Objection, form.
A. Yes, because those papers that they discussed, many of them include all subtypes or don't separate and just call it epithelial ovarian cancer.
BY DR. THOMPSON:
Q. And the last sentence: Given that there's a potential for perineal exposure to talc from the use of various self-care products, a potential concern for human health has been identified.
And that would include all the subtypes of epithelial ovarian cancer?
MR. ZELLERS: Objection, form.
BY DR. THOMPSON:
Q. Is that right?
A. Yes.
DR. THOMPSON: That's all.
MR. ZELLERS: I have no further questions. Thank you.
THE WITNESS: Thank you.
(Time noted: 4:41 p.m. CDT)

CERTIFICATE

I, MICHAEL E. MILLER, Fellow of the Academy of Professional Reporters, Registered Diplomate Reporter, Certified Realtime Reporter, Certified Court Reporter and Notary Public, do hereby certify that prior to the commencement of the examination, JUDITH WOLF, M.D. was duly sworn by me to testify to the truth, the whole truth and nothing but the truth.

I DO FURTHER CERTIFY that the foregoing is a verbatim transcript of the testimony as taken stenographically by and before me at the time, place and on the date hereinbefore set forth, to the best of my ability.

I DO FURTHER CERTIFY that pursuant to FRCP Rule 30, signature of the witness was not requested by the witness or other party before the conclusion of the deposition.

I DO FURTHER CERTIFY that I am neither a relative nor employee nor attorney nor counsel of any of the parties to this action, and that I am neither a relative nor employee of such attorney or counsel, and that I am not financially interested in the action.

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Dated: September 16, 2021

INSTRUCTIONS TO WITNESS

Please read your deposition over carefully and make any necessary corrections. You should state the reason in the appropriate space on the errata sheet for any corrections that are made.
After doing so, please sign the errata sheet and date it.
You are signing same subject to the changes you have noted on the errata sheet, which will be attached to your deposition.
It is imperative that you return the original errata sheet to the deposing attorney within thirty (30) days of receipt of the deposition transcript by you. If you fail to do so, the deposition transcript may be deemed to be accurate and may be used in court.

ERRATA

PAGE LINE CHANGE

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ACKNOWLEDGMENT OF DEPONENT

I, JUDITH WOLF, M.D., do hereby certify that I have read the foregoing pages and that the same is a correct transcription of the answers given by me to the questions therein propounded, except for the corrections or changes in form or substance, if any, noted in the attached Errata Sheet.

_____

JUDITH WOLF, M.D. DATE

Subscribed and sworn to before me this _____ day of _____, 20 _____.

My commission expires: _____

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Notary Public

LAWYER'S NOTES

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